Rome.—A correspondent writes,—The British Archæological Society of Rome continues its work steadily, and visitors to Rome now hear a great deal more about the antiquities than they ever did before. The society has stirred up others to emulation with them, and has given great activity to the study of the antiquities of Rome. The weekly lectures are always well attended, and give a good deal of useful and interesting information, not easily obtained elsewhere. Mr. Shakspere Wood, the secretary, is indefatigable in giving lectures on the spot, sometimes three times over. But there are always two sides of every question, and I hear that the society consists almost entirely of the strangers who flock to Rome, and that the older residents in Rome generally hold aloof from it; that even the members of the committee, who are the managing body, are sometimes strangers, who hardly know the names of the places they go to see. I hear little of Mr. Parker's excavations this season, and I am told that this arises from his finding difficulties put in his way by the Government authorities at the instigation of the local antiquaries,—that they have not renewed his permissions which they had given last year. It is against the law in Rome for any one to dig more than 6 ft. deep without permission from the government, and any labourer found doing so is liable to be sent to prison at once by the police without any form of trial. Mr. Parker has, however, continued to go on exploring the remains of the old Mamertine prison, and has found three doorways under the level of the ground in the cellars, and therefore at a great depth below the surface. All the walls and doorways are made of the large square or oblong blocks of tufa, the same as the walls of Servius Tullius.

Worcester Cathedral Clock and Bells.—The Rev. R. Catley, minor canon of Worcester, writes to the local papers saying that the bells are already pronounced by competent judges to be of surpassing excellence, and that the clock has been for some time ready for erection, and as the internal restoration of the tower rapidly approaches completion, it will soon be placed in its proper position. He gives the following estimate of the total cost:—

Bells, oak frame, and all necessary fittings complete	£2,677	0	0
Clock, about	500	0	0
Timber trussing, floors, &c., about	1,200	0	0
Architect's commission, about	70	0	0
Gasfittings	12	0	0
Chiming apparatus	20	0	0
Wire for tower windows, about	35	0	0
Incidental expenses, including taking down old bells, printing, advertising, &c., about	200	0	0
	£4,714	0	0
Amount already promised	£3,806	0	0
Leaving a balance yet to be provided of	908	0	0

An appeal is made for further contributions, to be sent to any of the Worcester banks.

Sewage Farming.—A paper on this subject has been read by Mr. Bailey Denton to the members of the Farmers' Club, and appears at some length in their *Journal*. The title of the paper was, "On Sewage Farming, and the Position of Sewer Authorities in relation to Lands to which Sewage is applied." There was a very full attendance. Mr. Denton, in the outset of his paper, said that his object was not so much to pronounce opinions of his own as to elicit the views of others; and, considering the highly practical character of his fellow-members of the club, he would avoid dwelling on those general agricultural laws which rule in sewage as in ordinary farming, and address himself at once to the particular objects of his paper, which, as a new branch of farming, demanded special treatment. An interesting discussion followed the reading of the paper, in which a variety of opinions were expressed.

The Late Mr. George Leather, C.E.—The remains of this gentleman have been interred in the Burmantofts Cemetery, Leeds. In early life Mr. Leather enjoyed considerable reputation as an engineer. He was concerned in the improvements of the Aire and Calder navigation, by which it was made available for sea-going vessels to Leeds and Wakefield, and also in the like improvements of the River Dun navigation to Sheffield. The various bridges which have been erected over the Aire in Leeds within the last forty years were also designed and executed by Mr. Leather, either solely or in conjunction with his son.

The New Public Buildings.—In the House of Lords last week Lord Redesdale said that he had looked at the designs of the new public buildings, but he was disappointed to find that there was no block plan to show the disposal of the buildings when erected. He wished to know whether there was any objection to the preparation of such a plan; also whether a connexion could be made between the new buildings and the Privy Council offices. He drew attention to the fact that a house in Spring-gardens was lately taken possession of by a banking company, and that a large palatial building was about to be erected on its site. This house might have been purchased some time ago at a low figure, and by means of its clearance a fine entrance into the mall might have been secured. Earl Granville said, in reply, that he would make inquiries into the matter.

The Boutet Bridge.—According to the *Moniteur*, the model of a single span, of 80 mètres, is now nearly completed. The two abutments, formed of blocks of granite, the tress and platform are set up for a length of 80 mètres (the ground where the model is provisionally installed, at the "Depôt des Marbres," not allowing of the whole length of 100 mètres being extended). The tress was tried on different occasions, and resisted, without the slightest deflection, a strain double that of the trial weight required by the rules of "The Ponts et Chaussées;" lastly, the "longrines," or rafters, are ready to be mounted. The model is intended to prove the efficacy of the Boutet system for the construction of a great bridge over the Channel.

A Benedictine Monastery in Wales for Father Ignatius.—The foundation-stone of a new monastery has been laid by Father Ignatius and his monks among the Black Mountains in Monmouthshire, in the Valley of Ewyas, near Llanthony. A spectator thus describes the site:

"We were standing about 300 ft. above the gliding river Honddu, on the slope of the western hill, with a full view of the magnificent valley of Ewyas to the south, and the grand towering Black Mountains on either side. On the north, a bold and beautiful round-shaped mountain stood out alone, separating two most lovely valleys, which swept past it to the right and left. All was silent, solemn, beautiful, and still. A narrow ravine, verdant with ferns and bushes, through which rushed a mountain stream, formed the south-eastern limit of the site marked out for the new abbey. The level for the foundation of the west cloister was already nearly finished. The foundation-stone was ready for the ceremony, being placed at the base of the first buttress of the west cloister."

"Scholars' International Exhibition."—The *Kensington News* says,—A further novelty is in the course of introduction in Kensington, at the Allen-street Schools, in the form of a Scholars' Industrial Exhibition. The exhibition will comprise various specimens of ornamental and decorative art, results of applied science and skill in handicraft, with a large admixture of the more humble specimens of the arts practised in domestic life by the girls and young women connected with this institution. Mr. S. H. Trotman is the manager.

New Synagogues.—The new Central Synagogue, in Great Portland-street, which we illustrated on page 887 of our volume for 1869, has now been consecrated by the Chief Rabbi. The opening of the new Synagogue for Rochester and Chatham, built and endowed by Mr. Simon Magnus, a merchant of Chatham, is postponed indefinitely, as Mr. Magnus insists on having at the consecration, and taking part in it, Professor Marks, who belongs to the "reformed" party amongst the Jewish community, and to this the Chief Rabbi and others object.

Billingsgate.—A correspondent suggests a plan for the enlargement of Billingsgate Market, by means of a floating covered way, to extend the entire length of the Custom House Quay, and of sufficient width to give an addition of four times the space of the existing market, with which it is proposed to connect it on the river-side, so as in no way to obstruct the navigation. The structure to be of a suitably ornamental character.

TENDERS.

For the erection of a villa residence, Crouch-hill, Hornsey, for Mr. W. R. Perry. Mr. Alfred W. N. Burder, architect. Quantities not supplied:—

Timewell	£2,024	0	0
Wood	1,900	0	0
Dove	1,895	0	0
Williams & Son	1,867	0	0
Roberts	1,860	0	0
Carter & Sons (accepted)	1,840	0	0

For making 17,400 superficial yards of roads, &c., at Stoke Park, near Bristol. Mr. Henry Masters, architect:—

Adams & Kirby	£3,800	0	0
Pilditch & Sons	2,207	16	2
Price	1,992	2	6
Rogers	1,898	13	0
Storkey	1,824	0	0
Mullett*	1,735	0	0
Merewether & Sons	1,630	0	0
Davis	1,541	3	0
Baker (accepted)	1,521	0	0
Sidwell*	1,504	10	3

* Informal.

For enlarging and restoring Starston Church, Norfolk, exclusive of the old materials. Mr. R. M. Phipson, architect:—

Grimwood (accepted)	£725	0	0

For alterations and additions to The Grove, Yoxford. Mr. R. M. Phipson, architect:—

Mountain & Cotton	£1,339	0	0
Grimwood	1,246	11	0
Smyth & Sons (accepted)	899	17	6

For rebuilding part of Writtle Mills, Chelmsford, for Messrs. W. & J. Beach & Sons. Mr. Elkington, architect:—

Little	£2,489	0	0
Roper	2,358	0	0
Wells	2,293	0	0
Gardner	2,158	0	0
Brown	2,060	0	0
Saunders	1,960	0	0
Sudbury (accepted)	1,940	12	0

For detached villa residence at Turnham Green, for Mr. W. H. Thomas. Mr. C. Sewell, architect. Quantities provided:—

Scott	£1,880	0	0
Wilson	1,826	10	0
Westcomb	1,826	0	0
Wright	1,787	0	0
Flaxman	1,755	0	0
Adamson & Son	1,737	0	0
Wigmore	1,699	10	0
Fisher	1,684	10	0
Cowland	1,665	0	0
Perry Bros.	1,617	0	0
Heaver & Coates	1,597	0	0
Whittick	1,250	0	0

For rebuilding the Old White Horse Tavern, Brixton, Surrey, for Mr. H. J. Reeve. Mr. C. Sewell, architect. Quantities provided:—

Scott	£2,837	0	0
Hoare & Posselthwaite	2,630	0	0
Staines & Son	2,398	0	0
Cooper	2,350	0	0
Smith	2,339	0	0
Heaver & Coates	2,297	0	0
Perry Bros.	2,247	0	0
Jackson (accepted)	2,080	0	0
Rowe & Verran	2,037	0	0

For the erection of the West London District Schools, at Ashford, Middlesex. Mr. H. H. Collins, architect. Quantities supplied by Messrs. Batstone & Hunt and Mr. Gritten:—

Merritt & Ashby	£57,965	0	0
Brass	55,990	0	0
Newman & Mann	54,728	0	0
Crockett	52,300	0	0
Jackson & Shaw	52,300	0	0
Tongue	52,250	0	0
Nutt & Co.	52,000	0	0
Myers & Sons	51,961	0	0
Crabb & Vaughan	51,600	0	0
Capps & Ritso	51,126	0	0
Hart	50,500	0	0
Gibson Bros.	49,998	0	0
Perry & Co.	49,770	0	0
Henshaw	49,350	0	0
Howard	48,969	0	0
Ebbs & Sons	48,866	0	0
Hill, Keddell, & Waldram	48,500	0	0
Kilby	48,435	0	0
Marwick & Thurgood	47,479	0	0
Kirk	46,994	0	0
Harris	46,500	0	0
Fergusson	44,670	0	0
Kelly Bros.	43,630	0	0
Bull & Sons (accepted)	43,590	0	0

For the erection of seventeen houses, Birkland-avenue, Peel-street, Nottingham, for Mr. George Abbott. Mr. J. Collyer, architect. Quantities supplied:—

Curtis (accepted)	£3,636	0	0

For extension to factory, Sherwood-street, Nottingham, for Mr. John Farmer. Mr. J. Collyer, architect. Quantities supplied:—

Vickers	£720	0	0
Bell & Son	698	0	0
Shepperson	672	0	0
Curtis	670	0	0
Jelley (accepted)	668	0	0

For the erection of a teacher's residence, attached to Oakley National School, Bishop's Stortford. Mr. Alfred W. N. Burder, architect. Quantities not supplied:—

	Residence.			Repairs to School Buildings.		
Glasscock	£222	10	0	£7	10	0
Brown (accepted)	205	10	0	9	10	0

For two pairs of semi-detached villa residences in Hornsey-lane. Mr. J. W. Reed, architect:—

Williams	£6,089	0	0
Eaton & Chapman	5,990	0	0
Parsons	5,767	0	0
Hawkes	5,760	0	0
Hyde	5,705	0	0
Winship	5,645	0	0
Sale	5,545	0	0
Carter & Sons	5,257	0	0

For the erection of a house at Wetheral, Cumberland, for Mr. John Scott. Messrs. Henry Jarvis & Son, architects:—

Milburn	£3,168 9 0
Court	3,135 10 0
Armstrong	3,059 0 0
Black	2,835 0 0
Nelson & Cockburn	2,813 0 0

For a Working Men's Art, Industrial, and General Exhibition building, Hull, Yorkshire. Mr. R. G. Smith, architect. Quantities supplied by Mr. G. W. Ranwell:—

	Allowance for taking back old Materials.
Marshall	£2,750 0 0 ... £400 0 0
Fewster	2,736 0 0 ... 500 0 0
Skinner	2,454 0 0 ... 790 0 0
Habbershaw	2,267 0 0 ... 450 0 0
Jackson	2,255 0 0 ... —
Hutchinson	2,252 0 0 ... 500 0 0
Bray & Dixon	2,194 0 0 ... 500 0 0
Hall	2,149 0 0 ... —
,, (amended)	1,945 0 0 ... —
Bewers	2,030 0 0 ... —
W. & J. Hall*	1,990 0 0 ... 550 0 0

* Accepted.

For the erection of additions, &c., and alterations to the Farnham and Hartley Wintney District Schools. Mr. Edmund Woodthorpe, architect. Quantities supplied by Messrs. Welch & Atkinson:—

Hill, Keddell, & Waldram	£4,225 0 0
Brinton & Bone	4,100 0 0
Cooper & Co.	4,080 0 0
Martin, Wells, & Co.	3,993 0 0
Nightingale	3,823 0 0
Bull & Son	3,783 0 0
Perry Brothers	3,747 0 0
Strodley & Kemp	3,700 0 0
Bowker	3,679 0 0
Harris, jun.	3,621 16 4
Goddard & Son	3,595 0 0
Birch (accepted)	3,480 0 0
Duke	3,200 0 0

For restoration of Worle Church, Somerset. Mr. John Norton, architect:—

Young	£1,620 0 0
Date	1,600 0 0
Hughes	1,560 0 0
Wilkins & Son	1,400 0 0
King	1,393 0 0
Stephens	1,344 0 0
Beaven & Sons	1,324 0 0
Hunt	1,310 0 0
Newton	1,262 0 0
Gorvett	1,240 0 0
Wall & Hook	1,230 0 0
Diment	1,135 0 0
Bennett	1,124 0 0
Bale	875 0 0

For alterations and additions, at the African Chief public-house, Ossulston-street, Somers Town, for Mr. Deakin. Mr. Saville, architect:—

Patrick & Son	£1,467 0 0
Scrivener & White	1,386 0 0
Jackson & Shaw	1,177 0 0
Gill	1,119 0 0
Falkner (accepted)	1,087 0 0

For rebuilding the Nelson public-house, Trafalgar-street, Walworth, for Mr. P. Flanders. Mr. H. Jackson, architect:—

Scadden	£1,347 0 0
Cooper	1,185 0 0
Evans	1,096 0 0
Shackell	1,070 0 0
Falkner (accepted)	996 0 0

For building house and dairy, Meadow-row, New Kent-road, for Mrs. White:—

Falkner (accepted)	£370 0 0

For the new infirmary at the Union Workhouse, Biggleswade, Bedfordshire. Mr. J. T. Wing, architect:—

Adams	£2,725 0 0
Thompson	2,140 0 0
Taylor	2,120 0 0
Eaton & Chapman	1,930 0 0
Chappell	1,895 0 0
Nightingale	1,855 0 0
Claridge	1,735 0 0
Field	1,677 0 0
Winn & Foster	1,630 0 0
Foster	1,577 0 0
Hobson & Taylor	1,597 0 0
Smart Brothers	1,597 0 0
Hinton & Young	1,570 0 0
Crabb & Vaughan	1,563 0 0
Osborne	1,527 0 0
Twelvetrees (accepted)	1,430 0 0
Freshwater	1,405 0 0

For iron girders, palisading, &c., for the Headingham Highway Board. Mr. E. R. Boulter, district surveyor:—

Smith & Wood	£108 5 0
Woolfield	80 0 0
Hunt	70 0 0
Huggins & Atterton (accepted)	65 10 0
Jukes, Colson, & Co.*	45 0 0

* Exclusive of fixing.

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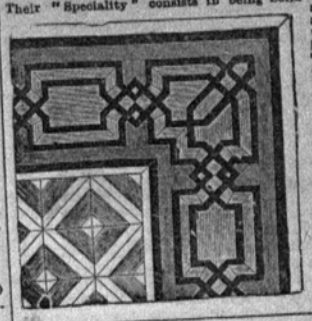

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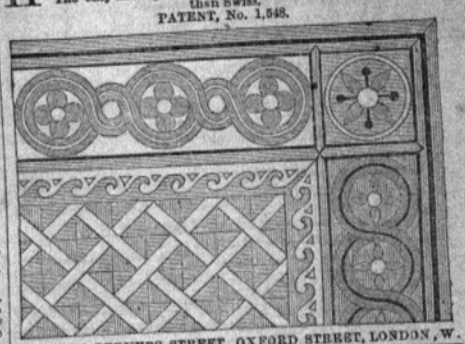

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The Builder.

VOL. XXVIII.—No. 1420.

The Sanitary Condition of Edinburgh in 1870.

WE have once more walked through the wynds and closes, the broadways and the by-ways, and creeped up, nearly on all-fours, a good number of the steep corrugated and slippy and sludgy defiles of the old town of Edinburgh. We have often seen Auld Reekie before, and it has often been our painful province to criticise somewhat severely its most wretched and deplorable sanitary condition. Within a few years various commendable improvements have taken place. Some new and improved dwellings have been erected for the accommodation of the working and small shop-keeping classes, and two or three notorious rookeries have been pulled down to make way for this improvement; but the old town of Edinburgh, betwixt the lines of the High-street, the Canongate, and the Cowgate, with its extremities, the Grassmarket and the Westport, contains yet a squalid and miserably-housed population. It would take too many lines of these columns to enumerate in detail the reeking alleys, slums, and tottering, slippery, and headlong, break-neck passages, which intersect the many leading and back streets in the direction we have indicated,—passages and alleys with noisome smells and accumulated heaps of filth. Rickety, dingy, dilapidated, and dismal dwellings by the hundred can still be seen and reckoned on any occasion in every quarter of the old city.

To view the bleak side of Edinburgh as well as its bright, it is necessary to dive into its dismal closes, and wind round its corkscrew stone staircases; to mount, still mount, up, still up, from flat to flat, to the sixth and seventh story,—to where the cradled and creeping bairn, or the poor decrepit crone, may be seen, indifferent to the life and bustle of the work-a-day world below on street and pavement. Truly in Edinburgh there are human entities perched aloft in inaccessible eyries, of whom their neighbours know absolutely nothing; and the saying "that one half of the world does not know how the other half lives," is sensibly applicable to them. We have visited them, we have seen their homes, we have examined their surroundings, and we must be forgiven if we draw the obvious conclusion which such a state of life warrants us to draw. The last was a hard winter in Edinburgh, and employment was very dull; for Edinburgh, it must be remembered, is unlike Glasgow: it does not possess many factories or foundries of sundry descriptions. It has a few foundries, which employ a small number of men, and the vulcanite or India-rubber factories are the best open in the city for absorbing a large amount of the surplus male and female labour which exists. Here, in those factories, some hundreds of men, women, boys, and girls, are employed in the manufacture of an almost indescribable number of articles of a useful and ornamental character. It would be well if a few more factories were established of a similar description, for Edinburgh at present requires openings for waste labour.

The building trades may be said to be the only ones that are brisk, or will be brisk when the spring is farther advanced; several new buildings are in progress, terraces are laid out, and railway termini are undergoing metamorphoses. For instance, the Caledonian Railway Company have nearly completed their new station at the angle of the Lothian-road.

Off the High-street several improvements have taken place since 1864. One side of St. Mary's Wynd, a noted narrow gut sacred to *Old Clo*, has disappeared, and new houses, with shops, have been erected, conformably with the spirit of the Improvement Act of 1867, having been carried on under the provostship of Mr. William Chambers. A tablet in commemoration is inserted over the doorway of the angle house. The houses are a vast improvement on the old edifices of the town. The stairs are wide and easy, and, of course, of stone, as mostly all the stairs in Edinburgh are. They are not of the old spiral fashion, but what we call dog-legged, and are easy of ascent. The rooms are somewhat roomy, to use a homely phrase. But these houses in St. Mary's Wynd do not meet the requirements of the working classes, nor can it be said that they were designed to do so. One side of St. Mary's Wynd is improved without doubt. The thoroughfare is wider and healthier; but the poor are not helped by good house-room and low rents in consequence. There are other improvements in connexion with the High-street under consideration, and houses are in course of demolition for the purpose. Around by that quarter of the town that looks out upon Salisbury Crags (Arthur's Seat) several lines of new houses have been erected within these three or four years, and others are in course of incubation. These houses, although of a not very ornamental cast, are pretty fairly built, and are better ventilated. Their approaches, though steep, are not offensive, nor are the unsavoury smells which one finds in the heart of the city felt.

Edinburgh, though less silently and less markedly than London, is gradually extending itself, even beyond and upon its old frontiers, and twenty years hence the new portion of the old town will have outgrown its predecessor as much as the new town (the Princes-street side) has outgrown the old in good buildings during the last forty years. But at this point let us inquire, seriously, is it possible to improve the sanitary condition of the old town of Edinburgh? It is a difficult question to satisfactorily answer. During our visit we have penetrated the precincts of upwards of a hundred old Wynds, Closes, and Entries, and we have found them in as bad a condition, and the majority of them in a worse one than we did in 1864-5, or any time previously. Muck and filth of every kind were to be encountered, and unless a man possessed an india-rubber nostril that could shrink and dilate at pleasure, he could not escape the penalty of inhaling pervading odours. If life is to be seen in Auld Reekie, reeking filth and fume must be waded through.

But we must say that the worst closes and wynds, and the greatest dinginess, desolation, and dirt exist in the closes off the High-street, the Cowgate, the Grassmarket, and the Westport. We are not writing from hearsay, but personal observation and examination. Discussions are going on in the Corporation anent over-crowding of lodging-houses, and Baillie Miller, in the Council denies the soft impeachment, but another more outspoken member confirms the fact by offering to prove that overcrowding does exist, and he can put the Baillie's finger upon it. We can confirm the truth of this. Overcrowding exists in the Grassmarket, and the Westport, and in some other of the quarters which we have already enumerated.

We went in search of these lodging-houses, and found them. Poor speculators make a living by lodging their fellow worms, and as long as the sanitary condition of old Edinburgh remains as it is, there will be overcrowded lodgings, fever, cholera, plague, and penury. Only those who have made an extended visit through the old town can form an idea of what a horrible and rotten old carcass is contained within the outer skin of the Modern Athens.

Athens, eh? Yes, we must acknowledge that Edinburgh has buildings,—public and ecclesiastical,—and streets and picturesque eminences almost unequalled in the summer sun. She has wealth—she has beauty—she has good moral and physical attributes. She has great men,—men of science, lawyers, engineers, artists, churchmen, and others; but, alas! she has a diseased sanitary core. She has had a cancer for years, that must be cut out; for if ever a great epidemic should sweep over the northern capital, "Wo worth the day—wo worth the hour." She would not escape the effect of the blow for a half-century.

How is such an undesired casualty to be, if not in a manner prevented, at least lightened materially if it should occur? Simply by beginning at the right end, doing things in the right way, and putting the right men in the right place. This has not been done heretofore in Edinburgh. Of course, jobbery in connexion with corporate works is common, and Edinburgh is not an exception. It would be a wonder if the Scottish character were impervious, in the individual or the community, to the duty of providing for itself; therefore high personages, it is said, have taken especial care of themselves, while the public were left to take care of themselves. The sanitary condition of Edinburgh can be gradually improved, but it will be the work of two or three generations, as far as the old town is concerned.

The majority of the houses in the wynds and closes are unfit to live in. The majority of these entries are of a steep incline on their base line, and the staircases of these dwellings are in character with the outside passage. Their ascent is steep, darksome, and dangerous, and every "flat" comprises tenements, where the sunshine seldom enters, morning, noon, or evening. The breeze of heaven, God's light, and pure air, are unbidden visitants in these dreary and dingy closes.

To abolish these dark slums is desirable. You cannot at present, for whither are the working poor to go? There is no quarter where the dwellers in these places can find homes neat, healthy, and cheap, or even at all. There are interests, too, involved in these houses varied and curious. Take, for instance, any house in the leading or bye streets of the old town, and you will learn, perhaps, that the house has half a dozen landlords. Some may be factors, and others factotums; but the fact remains, they are managed for different landlords. In other places every man's house may be his castle; but in Edinburgh, though every landlord's "flat" may be his "flat," the house as a whole belongs to a good many other bodies besides himself. The poor tenant of a "flat," in fact, pays the taxes for his landlord, and these are allowed to be deducted from the rent. The tenants feel this hardship, and are loud in condemnation of a system that compels them to pay taxes in advance for their landlords, and then remain for six months before they are recouped by deduction from the rent.

We have found instances in our peregrinations where one "flat" was owned by a half-dozen proprietors. For instance, it was devised to a family of six or eight children, brothers and sisters. The bequest gave them all the benefit of an identical interest. One could sell without the other's consent his sixth or eighth part to another landlord of another "flat," and then the five or seven brothers or sisters might sell their portions *seriatim*, or let them alone. Or, if they liked to club with a mutual consent, they might dispose of the family property, and divide the price obtained for the "flat" among them.

We will relate another curious instance illustrative of how a duty devolved upon the owner of a top "flat," and how the system worked in relation to the interests of the other proprietors. A stipulation was inserted in the lease that the owner of a certain top "flat" (in the High-street) would agree to keep the roof in repair. The task of keeping a large roof in a state of repair would be no easy affair for a poor owner, who might live on a very small income. The owners of other flats underneath might prove disagreeable neighbours, if the roof leaked, and if water from gutters trickled along the outside walls, making their bedrooms damp, and injuring their chance of getting good tenants.

Built by building speculators in days past, a good portion of the house property in Edinburgh Old Town has undergone many changes, and has has entered into the possession of various landlords. Many, if not all, the landlords of the house property in these old wynds and closes are now speculating on the chances that will exist of disposing of their bargains for greater bargains. Some have already amassed capital by the new improvements going on, which necessitated the demolition of portions of those old closes; but if future improvements advance only at the rate of the past, it will take a long period before Edinburgh can put in a decent sanitary appearance.

When Edinburgh is ramified with metropolitan railways, or even when one or two lines sweep the circuit of the city, better conditions will exist for leading to its purification. Building in Edinburgh is rather costly in one respect, as stone forms the principal material. The Edinburgh folk do not like the idea of brick structures, but if brick or concrete houses were erected by the score in Edinburgh, and let at a low rent, they would pay the speculator after a short time. Workmen's dwellings, built with brick, of suitable dimensions, and with the ordinary requirements that the improved dwellings recently erected in places throughout England afford, would be, in a measure, palaces compared with the wretched "flats" in the closes and wynds of the High-street and the Cowgate.

By the opening of wide entries or streets off each side of the High-street and the Canongate, crossing the Cowgate, and brought up to a level by bridging the latter thoroughfare, further improvements would be made, and freer currents of air would be let into quarters which stand sorrowfully in need of it. Bridge-street, and its continuation in Nicholson-street from the leading High-street, is an example of what is wanted. Radial arteries directed from the main trunk would circulate the life-blood of the city through channels that are all but lifeless and inert,—choked for want of pure air, and suffocated with chronic foulness and not easily removable filth.

Some of those very high houses in the old town have not water laid on in many of their flats; and, though the pressure is great enough to raise it to the highest flat, many of the tenants are obliged to carry up the water they use in buckets, to the height of six stories, round and round a most tortuous spiral stair, where it requires one accustomed to every step and landing to ascend without accident. The poor are not half accommodated with water in Edinburgh.

The water-supply, which is now in the hands of the Corporation, who desire to improve the city, should be managed in a better way. The poor should not be obliged to come down five or six stories to fountains in the alleys and lanes for their water. As every flat is considered in the same sense as if it was a house, therefore, to every landing and every kitchen of each "flat" water should be laid on, and all the poor should be properly served. Where there is not a good water-supply there must be accumulation of dirt; and where dirt exists disease is not far distant.

Edinburgh requires a good system of sanitary inspectorship. The city requires to be told off in divisions or districts; and sub-officers, acting under one supreme and responsible head, ought to be stationed in suitable quarters of the town, and their allotted work mapped out for them. We confess that we hardly know what system at present the sanitary management of the city of Edinburgh is under. If a proper Board of Health existed something ought to be and would be expected at their hands. But it appears to us that in the meetings of the Town Council, whenever sanitary matters are discussed, there is a great deal too much talk that ends in nothing or next to nothing, for repeated adjournment is only another method of shelving measures which are distasteful. Opposing members have their own hobbies, and as it takes months to reduce theories to practice, it need not be marvelled at that Edinburgh is still overcrowded in her wynds, and has a sickly constitution.

Edinburgh, of course, is fashionable and wealthy, and has good streets and squares in the modern or new city, but of these we are not speaking at present. The fashion and the equipages that roll through Princes-street and its surroundings do not ebb through the Cowgate or the Grass-market, nor do we believe they allow their nostrils to be offended by a sweep through the High-street, except when a desire arises for visiting the old Castle on the rock and the Royal Palace of Holyrood.

Royalty and fashion forswear the old historic portions of the city, and the old memoried spots sacred to king and Covenanter, Royalist and Jacobite, are tabooed, because a deadly asthma is in the heart of the Old Town, and a churchyard cough is heard rattling in the throat of poor Auld Reekie.

Edinburgh requires a thorough and complete system of main drainage, sweeping down towards Leith, where the sewage might be utilised with effect for irrigation purposes, on adjacent districts, and for sale to the farmers inland. The present system of scavenging the town is a disgrace, and the morning view on the streets and alleys, of night soil and ashes, is unworthy of modern Athens in the nineteenth century. Where shall the poor throw their dirt, slush, ashes, and sundry nasty sweepings? Not certainly on the footway of the wynds and closes, or in the channels of the open streets. There should be respectable bins or ashpits put up in certain quarters by the corporation to meet the requirements of the back-to-back dwellings in the closes, and no more new structure should be erected in Edinburgh of the criminal and barbarian type, which has disgraced, and is still disgracing the city, and making old Edinburgh a scandal to the empire.

We know it is difficult to do an expeditious work of a sanitary kind in Edinburgh. We are not blind to the obstacles, nor ignorant of the manifold interests that link into each other. But all there things will grow small and appear puny when a hearty movement for thorough sanitary reforms is undertaken by the corporation of Edinburgh. The Water Trust, which comes under the complete control of the town council in May next, will be a step in the right direction; and we hope when it takes place, that not one attic, or cellar, or lane, alley, or close in Edinburgh will gasp for water, and gasp in vain.

We marvel very much, indeed, that the death-rate is not larger in the Old Town than it is, for the seeds of fever, cholera, and other human plagues exist, and certain atmospheric conditions only are necessary at any time to transform a city with wealth and learning into a dismal and plague-stricken capital.

These may be gloomy observations, but they are fortified by incontrovertible data. The more is the pity.

ALBERT BRIDGE, BATTERSEA PARK.

THE disadvantages which are allied with the existing arrangements as to toll and non-toll paying bridges in the metropolis might well attract notice in connexion with the long contemplated erection of a new bridge at Chelsea. Few pronounced instances probably could be so well adduced in favour of the equity of the total abolition of tolls upon metropolitan bridges than those which may be found to be associated with this undertaking. The distance from the existing suspension bridge at the eastern end of Battersea Park to Old Battersea Bridge, it may be true, would be scarcely likely to suggest the necessity of any intermediate erection. At the Surrey side the interval between the abutments of the two bridges which are already in existence is scarcely more than 1,700 yards; while on the Middlesex side that distance is exceeded by about another hundred yards, due to the land curve formed by the River at Battersea Reach. The completion of Albert Bridge would accordingly render accessible to the public no less than three bridges within the limits which we have indicated. Apart, however, from the question as to the extent of over-river accommodation that may be demanded at these points, there are circumstances which connect themselves with this particular project which would, in the opinion of many, in some measure justify the execution of a work which obviously has been long held in view. The expected improvement in the condition of house property in the neighbourhood, which it has been stated would be likely to result in opening up readier means of intercommunication across the river, could hardly, in fairness, be considered likely to follow upon so large a scale as circumstances would appear to render desirable. Speaking of Battersea alone, the extent of the erection of house property in that locality of late years, from a recent allusion to the subject in the House of Commons upon the question of the desirability of freeing the Eastern Chelsea Suspension Bridge from tolls, may be inferred from the statement that no less than 3,000 houses in that district are at present uninhabited. While dwelling upon this, which has come to be regarded as an important element in various proposals towards the possible redemption or abolition of tolls, it might be noted that the proportion of untenanted houses to which attention has been so prominently called in the case of Battersea, is by no means at this moment exclusively to be found in that part of the metropolis. In one ward alone of the parish of Camberwell at the present time no less than 950 houses are unoccupied; and it is alleged that, taking the entire district into consideration, a greater number of houses may be found untenanted in Camberwell than in Battersea. In some districts of Peckham, comprising houses now in course of erection, probably an equal number of unoccupied houses may be met with; but in this instance there are indications that the result is in some degree to be attributed to the want of facilities of access to the habitations which have been newly erected. There would appear ample reasons for concluding from various conspiring causes, in the main to be traced perhaps to the suspension of labour and trade which has so long afflicted certain parts, that in one division of the metropolis alone there may be found at this moment no less than 10,000 eligible dwelling-houses uninhabited. Such incidents point out undeniably the grave results which cannot fail to reach certain sections of the community, in every instance of a protracted commercial crisis such as that from which it is happily predicted the country is at length affording signs of recovery. Whether the erection of the proposed Albert Bridge would or would not operate in favour of the owners of household property in Battersea, it has been rendered more obvious perhaps than could have been wished that as a proprietary scheme it could have been more warmly supported in those localities which would be more likely to be interested. Other circumstances, however, which attach to this project, and to which we have alluded, are more or less of an official character; and while having confessedly prejudiced or delayed the undertaking as a private enterprise, but little intention would appear to have been declared towards remedying a situation of affairs with reference to which but little reason for excessive congratulation might, from any point of view, be afforded.

The western extremity of Battersea Park, as may be well known, was planned with a special view towards the construction of a bridge. The general arrangements, or it might be said the defiguration of this portion of the park, has been ostensibly so subordinated to the erection of such a structure at this site, that in the absence of any such intention acquiring further determinate signs of being realised, the formation of Albert-road might come to be regretted on many grounds.

The normal boundary of the park would appear not only to have been fruitlessly curtailed, but the adjacent land could scarcely be so well appropriated while the original design is held in abeyance or so tentatively proceeded with.

Should no readjustment of the land at this point be made, it might still be in vain to look forward to any official explanation as to the delay which has impaired or limited the intended utility of the park, involved considerable expenditure of the public money in the formation

of impracticable roads, and invited an incorporated body towards the prosecution of an apparently impossible enterprise, and one which, upon its original merits at least, appears to have lost so many of its former elements of attraction. Nor could it but be supposed to spring from gratuitous reticence on the part of any one to believe that, taking all the circumstances into consideration, any public, or perhaps it might equally be said, any private advantage could be still expected from an undertaking whose original shares of 10*l*., fully paid up, have been publicly offered for sale in the open market for a sum of three pence per share. There may be some who will recognise that in all charity we abstain from further comments in this direction, and prepared to admit from late occurrences that no degree of prudence could be deemed excessive in venturing to trespass too far upon even the credulity of the public. The parties concerned, however, in the case which we have in view, might be held to have just and substantial grounds of complaint; and it is because we would hail with satisfaction any practical suggestions, with the view of restoring public confidence to a work of promising utility, that we would be inclined in any way to aid so desirable an object. From the circumstance of the tolls upon the existing Chelsea Suspension Bridge—which, unlike most of the other bridges along the Thames, is neither private nor corporate property, but in the hands of the Government—not being continuous, but relinquished in favour of the public when the facilities which such structures are intended to afford are most demanded, it may become apparent that but little encouragement may be derived in any supplementary accommodation that might be sought to be extended upon a speculative basis. It might recommend itself also as a matter open to consideration whether the modifications which may be attempted with a view of limiting the cost of the structure which was originally intended to be erected at Battersea may meet with that approval which could scarcely fail to be desired.

In the instance of the proposed new bridge at Wandsworth, where such a structure may be more needed, and with reference to the erection of which Parliamentary powers have long been granted, it has been found necessary to apply for further authority to reduce the cost of the undertaking. Although this may be practicable, it could in no way enhance the merit of the project, nor appear calculated to command so large a share of public support as could be wished. Such a policy could be refined to the simple proposal of suspending a wire across the river, with a locomotive basket attached, as was employed at Clifton prior to the erection of the Clifton Suspension Bridge. It may be accepted, however, as a further illustration of the difficulties which have to be encountered in the construction of a proprietary bridge, while it is in the power of certain authorities to relieve such structures from tolls, and the expediency of the abolition of tolls upon all metropolitan bridges, courts such frequent advocacy.

The Albert Bridge Act was obtained so long ago as the year 1864, with permissive but conditional powers to amalgamate with the Old Battersea Bridge Company or proprietors. The proposed arrangement was, we believe, to the effect that those interested in the old bridge should be entitled to a preferential rent-charge clear of all deductions to the amount of 3,000*l*. per annum upon the united takings of the two bridges, assuming that the Albert Bridge had been erected within the time stipulated. The joint undertakings would then have merged into the single corporation of the Albert Bridge Company, upon which would have devolved the maintenance of the two bridges. The long-deferred erection of the new bridge, however, would appear to have rendered other arrangements desirable. From a report which was issued at a general meeting of shareholders, held at the Westminster Palace Hotel in January, 1866, it may be gathered that the company then congratulated themselves upon the satisfactory terms upon which the contract for the construction of the new bridge had been made; but considering the manner in which the works have since been proceeded with, it could scarcely be deemed importunate should the shareholders seek for some further justification of the report. Seldom has any enterprise of similar character appeared to have made so irresistible a start. The official statement at the meeting to which we have referred was to the effect that her Majesty's Commissioners of Works had agreed to convey to the company the land for the purposes of the bridge on the Surrey side for a merely nominal sum. The Metropolitan Board of Works had consented to construct their embankment wall in a line with the abutment of the bridge at Cheyne Walk, and form two approach roads, each 60 ft. wide, along the Embankment to the east and west of the bridge.

The Conservators of the River Thames had consented to the erection of a pier for the landing of passengers from steamboats immediately adjoining the bridge. The Metropolitan Railway Company were promoting a line in connexion with their system from Kensington to Chelsea, passing by Cheyne-walk, contiguous to the foot of Albert Bridge,—a circumstance which was thought worthy of being included in the general statement. Beyond all, an offer had been made, we learn from a published report by a responsible party, to take the bridge and collect the tolls, including lighting and repairs, paying 6,500*l*. to the company per annum for three years,—an offer which we are asked to believe was not only made, but accompanied by a recommendation to the shareholders not to accept it. It might be inferred from this, as well as from later occurrences, that a more conciliatory or accommodating body of shareholders it has seldom been the good fortune of many companies to attract. This concurrence of unheard-of felicities could scarcely have been improved upon save by the gratuitous erection of the bridge by disinterested parties; and why in face of all these tributary encouragements the original design should come now to be impoverished or abandoned, it may well be inquired. It would be widely apart from what may be considered necessary to enter more at length upon such observations as certain incidents with which the project in view has been attended would appear to render but too well warranted. As we have already observed, we would more gladly hail any fair indication of the undertaking being carried to a successful termination, and it is in that view that we for the moment abstain from further reference to matters which, as subjects of public interest, might be well communicated.

THE VAUDEVILLE THEATRE, STRAND.

So many of the newspapers have given the official description of the theatre that has been erected on the site of 403 and 404, Strand (a few houses east of the Adelphi Theatre), that it is scarcely necessary for us to repeat the particulars. Briefly, however, the principal entrance is in the Strand, by a hall leading to the stalls, on a level with the Strand; and by a staircase, 6 ft. wide, to the balcony and boxes. The pit is approached by a separate corridor, 5 ft. wide, level with the Strand. The gallery entrance is in Lumley-court.

The auditorium consists of a balcony, the front forming a semicircle, opening out by curves of a contrary flexure, as at the Gaiety, to the proscenium columns. Behind this, at a higher level, is the dress-circle tier. Above the upper circle is a spacious gallery. There are, on either side, between the balcony and the stage opening on the grand tier, three private boxes, divided by pillars having enriched capitals, and surmounted by semicircular arches, containing figure-subjects from *Midsummer Night's Dream* and the *Tempest*. Below these again, on the pit level, are two more private boxes on each side. There are seats, it is stated, for 1,000 persons. Opening out from the first landing of the staircase is a refreshment saloon, with cloak-rooms contiguous; above this, and occupying the frontage towards the Strand, are rooms for the management offices, wardrobe-making rooms, and a spacious refreshment saloon for the gallery. The lighting of the auditory is by one of "Strode's" sun-burners in the centre of the ceiling.

The stage is 30 ft. 6 in. in depth from the float lights to the back wall, with a dock for stowing scenery. The width between walls is 41 ft.; the stage opening 22 ft. wide; and the height above is sufficient to take up scenery out of sight. The footlights, by Messrs. Strode, burn downwards, the produce of the combustion being taken away in an iron cylinder running parallel with the front of the stage, and carried up in a flue in the main wall.

The coloured decorations have been well executed by Mr. George Gordon. They are principally on the flat, there being no raised ornament on the ceiling, or on the box fronts, except the upper and lower mouldings. The ceiling is divided into compartments with white ornaments on a blue ground. The panels in the cove over the proscenium are of varied design, in colours, on a gray ground. The front of the balcony tier is ornamented in colour on a gold ground. The lunettes in the arches over the private boxes (which remind the spectator of the little Charing-cross Theatre), have been painted by Mr. W. Phillips. The hangings for the boxes are of dark amber-coloured figured satin.

The Greek act-drop has been designed and painted by Mr. Gordon, the odd and wild figures in the foreground being by Mr. Alfred Thompson.

The general builder's work has been done by Mr. Hyde, and Mr. C. J. Phipps was the architect.

The theatre, which is in three heights only (the pit, the boxes, and the gallery), is advantageously lofty, and the seats in the boxes and the gallery are well raised one above another. So far as we could observe, there is scarcely a seat in the house from which the performances cannot be seen and heard, and this is no slight merit. Mr. Phipps has also produced an elegant *ensemble* before the curtain. We cannot speak so warmly of the arrangements behind, where, as in other theatres of the day jammed in amongst houses, the accommodation is unsatisfactory, and well calculated to lower the character of actors and actresses. We attach no blame to the architect; it is a question of area; but we should be glad to find the erection of theatres under such public control as would enforce the provision of proper accommodation.

The house opened with a very agreeable little comedy by Mr. Andrew Halliday, called "Love or Money," well played by Miss Amy Fawsitt, Miss Ada Cavendish, Mr. Geo. Honey, Mr. H. J. Montague, Mr. H. Irving, and Mr. W. H. Stephens. Burlesque, unhappily, is to find another home here. The example of it which has been produced, "Don Carlos, or the Infante in Arms," is one of the most senseless of its class, deficient alike in dramatic form and decent writing.

IVORY CARVING.

Our readers have heard that *camei* in onyx and in shell are to form part of the prize list of the Art Union of London; and we now put in a plea on behalf of *camei* and other carvings in ivory.

Those who are familiar with the working of this exquisite material are aware that no other substance lends itself with such facility to the highest skill of the artist. Capable, on the one hand, of a breadth and largeness of treatment equal to that to be attained by such a wood-carver as Grinling Gibbons himself, it is susceptible, on the other hand, of a microscopic delicacy of finish equal to that of the Greek gem-cutters, which may be combined with a boldness of relief, and shadow of undercutting, equal to those of the modelling of Ghiberti.

The chief defect of ivory as a material is its loss of colour by exposure to dirt or damp. This may be entirely prevented by proper care, and by exposure to light under glass. Under these conditions ivory is inferior to gems alone in durability, as metals are subject to oxidation, and wood to cracking by change of hygrometric condition. The most delicate *camei* of Wedgwood are coarse, when viewed under the magnifying glass, in comparison with *camei* in ivory. Nor is shell capable of equal finish.

Ivory carving is not to be judged of by such productions as the rude little figures, the execution of which forms an industry at Dieppe. These are essentially wood toys, executed in a better material. Neither are the brooches, earrings, and other ornaments, now executed in London, to be considered as specimens of artistic work in ivory. The price at which they are sold is too low to allow of the exertion of artistic skill and taste worthy of the beauty of the material. A case of modern English carvings exhibited at South Kensington may be referred to as another example of inferior modern work in ivory.

On the other hand, the well-known set of six plaques, representing *amorini, goats, satyrs,* and vintage scenes, attributed to Il Fiamingo, may be cited as an example of the bold broad style of carving for which ivory is eminently suitable. Of the *cameo*, or gem-like style of work, it is difficult to name any publicly accessible example. Exquisite statuettes were produced, some thirty years ago, by machinery invented by Mr. Cheverton. But in this case the reduction, which made no allowance for the diminution of scale, revealed its merely mechanical mode of execution to the

critical and educated eye. Very recently a few modern French carvings of great beauty have been added to the collections at South Kensington.

The importance of offering some encouragement for the revival of one of the most charming branches of the sculptor's art, will become apparent to any one who should wish to sell, or in any way to bring before public notice, a modern ivory carving, even if of a thoroughly artistic character. The first question with which he will be met is, "Is it antique?" The second, "Is it foreign?" If neither of these questions is answered in the affirmative, neither dealer nor connoisseur will glance further at the object. Grace of design, purity of rendering, boldness or delicacy of touch, attract no admiration, if the work confess a modern English origin. "There is no sale for objects of that kind," says the dealer. "I take no interest in any but antique," says the connoisseur. A hideous triptych, boasting a consular date, or a clumsy Lot, embracing a one-legged damsel, but attributed to a Flemish chisel, may command a hundred guineas, while an English work of art—deserving the title,—attracts no attention whatever. It will be a task worthy of the Art-Union of London to encourage, by more than words, the revival of this elegant art.

SOCIETY OF BRITISH ARTISTS.

THE forty-seventh annual exhibition by this society now open in the Suffolk-street galleries has two points of novelty, a collection of the paintings of the late Mr. F. Y. Hurlstone, for thirty years their president, and two contributions from Royal Academicians, namely, a powerfully painted study of a head by Mr. F. Leighton, and a graceful group in chalk by Mr. Frith. Amongst the works by the late president are (51) a "Portrait of the late Earl of Cavan;" (52) "*Salute, Signori*," a portrait of a roguish Italian boy looking out of a wine-shop window; (175) "Columbus with his Crew in Mutiny," a very animated and vigorous composition; (226) "Eros;" (227) "Italian Peasant Boys;" (228) "Italian Boys of the Nineteenth Century;" (229) "Columbus asking Alms at the Convent;" (230) "The Moorish Girl;" (231) "Italian Peasants Gambling;" (288) "A Portrait Group;" and (513) "The Venetian Page." They serve to show what many knew before, that Hurlstone narrowly escaped being a great painter. Of late years, however, he got farther and farther away from the chance.

We are disposed to consider the whole collection as above the average, and we advise our readers to go and judge for themselves. It includes a considerable amount of mediocrity, but displays at the same time many more pictures that have expression and tell a story than usual, as well as a large number of excellent landscapes.

The exhibition comprises 989 paintings and drawings, and 15 pieces of sculpture. Amongst the latter we would especially point out a candelabrum (1,000), executed in marble by Professor Steinhauser.

ASSERTED REMEDY FOR DAMP WALLS.

THE value of bricks and mortar is well known; but they possess the disagreeable peculiarity of being very absorbent of moisture, so that in exposed situations, in wet weather, the usual results are damp walls. Stone, too, is liable to be, and indeed is, acted upon very injuriously by gaseous and other atmospheric impurities, which cause the corrosion and disintegration, unfortunately visible in some of our most prominent public buildings. There have been many remedies proposed from time to time, and there are now a number of inventors before the public professing to cure the evils of damp and decay. What their means are we do not now stay to specify, nor to point out whether they have succeeded or failed. Our object is to notice the remedial measures adopted by Messrs. Gay & Co., of Alton, Hants, which seem to deserve attention. There are two remedies proposed; one, however, is visible, whilst the other is invisible. We will first notice the visible remedy, which is an impenetrable paint or solution made in the various colours suitable to architectural purposes, and applied to the surface of the material to be protected with a brush in the ordinary way. It is alike applicable to brick, cement, stone, wood, and iron, upon all of which it acts as a preservative from decay and the action of moisture. The surface presents a hard, enamelled appearance, which, it is asserted, is preserved for years. The solution dries very rapidly, so that three coats can be applied within an hour. It will not answer on *new* brickwork. We now come to the colourless process. The visible paint is applied in the ordinary way, and can be used by any one. The colourless waterproofing process, however, can only be executed by workmen specially instructed by the patentees. The process is termed "invisible," because, after its application, there is no perceptible change in the appearance of the material to which it has been applied. It consists in dissolving a patented compound by heat, and, whilst in a liquified condition, in applying it externally to buildings of stone, brick, stucco, or other similar porous material, the face of which is also heated to receive it. The surface is thus permanently secured from damp, and decay is arrested at one operation. By the method of application the compound is forced some distance into the pores of the material treated, independently of and beyond the absorbent action of the pores themselves. The preservative substance combines mechanically with the structure of the material into which it enters, and by the partial exclusion of the air under the influence of heat, a degree of permanence is insured, the testimonials assert, which has not previously been attained. The chemical character of the preservative is such that its nature cannot change, being affected by neither acids nor alkalies. Its action in arresting and preventing decay is both mechanical and chemical. In applying it the air-space between the particles of the material treated is reduced by the forcing in of the compound, which enters the pores for some distance, and there remains unaffected by changes of temperature, no matter how rapid or how extreme. The pressure and action of the outer atmosphere are thus kept from the interior of the material, which in effect becomes embalmed and in a condition to permanently resist decay.

With regard to the merits of Messrs. Gay's paint and solution, we gather from a number of testimonials before us that they have both been extensively used, and have proved perfectly successful. The strong expressions contained in these documents have led us to mention the processes.

Seeing how numerous are cases which come under our notice of damp houses, especially where exposed to the south-westerly winds, we feel bound to call attention to whatever seems really likely to prove a remedy.

ON COMPETITION IN TRADE.

THIS subject was treated of recently by Dr. W. B. Hodgson, at a meeting held under the auspices of the Social Science Association. In the discussion which followed,

Mr. Paterson said, as long as you kept to the buying and selling system, competition might be true, but it seemed to him that there were other great laws to be considered. The socialists advocated the co-operative system, and he could mention two or three instances in which unrestricted competition worked very badly. As to what had been referred to in the lecture on the supply of articles for the consumption of the inhabitants of London, he considered there was a great waste of labour in the distribution of these articles. Whole quarters of the metropolis were made hideous by great advertisements, and these were a tax upon all articles bought and sold, while they were of no use. It was as difficult to find an honest coat, an honest pair of boots, or an honest loaf, at a low price, as if there were no advertising. This was competition, not dishonest necessarily, but, nevertheless, a great evil. Competition, as it was, left a large portion of the people inadequately fed, housed, and cared for. He did not lay the blame of this on the competitive system. He had on a former occasion instanced cases of individuals earning from 3s. to 4s. a week, which they had to eke out by taxes levied on their more fortunate brethren. There was a prejudice on the part of employers that women ought to work cheaper than men. Was this dishonest? It was productive of great evil, for it created a feeling among workmen to exclude women from certain kinds of work because they naturally feared the introduction of lower wages. How was it that competition left a vast proportion of labour at prices that would not support the labourers? There was much stir now about education, but in many families it was impossible to send the children to school, and to keep them there long enough to make any useful progress, because their labour was needed for the support of the family. Competition ought to be restricted by certain laws and customs: it had been so restricted, and sometimes with beneficial results. Children had been employed at a very early age in factories, and had not the Legislature interfered, the well-disposed employer would be compelled by competition to continue to employ this kind of labour. He would ask Dr. Hodgson to reconsider this question.

Mr. Wilson said political economy was the poetry of transfer, but it did not take into account the wickedness of the world. They were surrounded by difficulties because society had got hold of the good things. What was needed was co-operation, or reciprocation, or, in other words, the mutuality of realisation, all might be brought to bear for the revolution of freedom. There was nothing to hinder a person from selling an article at a higher price than he ought to, for none of us know really the value of a thing we had to buy. The man who gave 15 oz. of sugar for 1 lb. might go on for six months, or six years, until he was found out, and then he had, perhaps, to pay 1*l*. There was also an instance lately of the introduction of a quantity of rotten salmon. We were, in fact, surrounded by a large organisation of determined enemies of the community, who made us pay their own prices. Co-operation should put an end to this, and enable the sufferers, by the free trade prices of goods, to set up a shop of their own, and get one man to sell to them instead of employing three at the same work. We must get rid of money, which was worshipped because it was the key of their citadel.

Mr. Ryan had attended the meeting as one for working men, and thought what had been laid down was far above their scope. He thought Dr. Hodgson deserved the thanks of working men for giving his thought to the subject, but he had not touched upon competition as they found it. He had told them that fair competition would remedy every evil. He thought there was not another commercial community which took such advantages, and played such tricks, as in this country. As to advertising, he thought scarcely any person believed in the posters which were put up in so many places. What must be the state of sellers in general when these advertisers sold adulterated articles. The lecturer had alluded to 5s. as the value of a book, but books which were of the most pernicious character were sold without any check. He did not mean to say men were not to try to sell cheaper than others, but they should be compelled to sell genuine and wholesome articles. In the competition with labour, capital could close its gates for a year without inconvenience, while economic science condemned combination on the part of the workmen. While exposing the evils that existed, it would be well to enforce laws that would be productive of health and justice.

Mr. Pears said that competition was the cure for monopoly, and in some cases where monopolies existed, such as railways, rival companies had been permitted for the sake of competition; but in many cases these competing companies had amalgamated and established monopolies. In the consideration of such things the question arose whether it was not desirable, in the interests of the community, that when there were certain enterprises which the country should have, and which from their nature must be monopolies, those monopolies should be in the hands of the public. Thus, in the case of the railways, many were now of the opinion that it would be for the interest of the community that the country should own the railways, because in that branch of enterprise competition could scarcely have fair play. Dr. Hodgson had not said that competition would cure all our evils. All that he had said was, that competition was productive of very great benefits. Mr. Safford had fallen into a fallacy in stating that prices were regulated by custom. No doubt you might buy a cigar in Regent-street for 1s., while you might be able to purchase one of as good quality near the Elephant and Castle for 2d.; but the high rents and different circumstances of the place were to be considered. Mr. Paterson had spoken of unrestricted competition as producing a great waste of labour, and of the evils of placarding and of attractive fronts. Was he about to propose to forbid all that? Was he prepared to say that this was productive of no benefit to the great mass of the community, or

was it a system sapping the vitals of the community and ruining us? This fact had to be kept steadily in view, that the whole progress of modern civilisation was a progress from monopolies to free competition. Civilisation was nothing more nor less than the full development of contract and the displacement of monopoly. In the days of Elizabeth exclusive trading rights had been granted to companies. Monopolies of this kind were the law over all England. The East India Company held a monopoly of the Eastern trade for centuries. In no town in England could a man set up in trade unless he were free of the guild or trading company which held the monopoly of the business. In those days one or two persons held a licence from the Crown, giving them the exclusive right to sell certain articles. Modern civilisation checked all these monopolies, and removed all trammels of this kind; and there was no doubt that all were now better off than at any previous period in history. There were many very badly off, but the proportion of these was smaller than it had ever been.

Lord Houghton, who was in the chair, said this course of lectures had been instituted, as he understood, for the purpose of presenting to a mixed audience certain elementary truths of political economy which it was supposed they did not fully comprehend, or, at least, did not act upon. One gentleman had demurred to the lecture as being rather above the heads of the class to which he belonged, and as not taking sufficiently into account the circumstances of that class; but it should be remembered that it did not do more than lay down certain principles which were parts of the foundation of the science. One point on which people were wrong was in thinking that political economy was a theory of one man, or of any set of men. It was merely an explanation of the laws of society, which were as rigid and severe, and sometimes as hard and cruel, as the laws of nature itself, or as the laws of health and life itself, which to all appeared unintelligible, and to many unjust. He did not think it was the object of anybody, in delivering this course of lectures, to make things better for them. All they could do was to lay these laws and principles before them, and to show them that, if they acted upon them, they would come to certain results; and if acted against them, they would come to other results. Competition was not without its evils; but what they had to do was to diminish these by making it as just and as innocent as they could. The evils of competition had struck some men as being so cruel that they had said, "We will not have it any longer; we will have in its stead a law of sympathy and love." So had said of old the author of our Christian religion. But through all the centuries since competition had gone on, despite all the lectures and sermons, and it would go on still. Those who worked against it tried to establish a world of sympathy and love, but we were forced to say that the attempt to apply those higher rules to the ordinary transactions of business had not succeeded. There had been a burst of this feeling on the outbreak of the French Revolution of 1848; but of all the various schools which had grown up on the ruins of competition, which of them had given the slightest hope of success? It had been truly urged that the system of competition could not be said to have acted badly or injuriously to mankind at all. It was not a theory, it was an imperative law of society; but as mankind had become better, the action of competition had been modified, and had taken an improved form. Among the Australian savages, its form would be that of knocking one another on the head. Here it was transferred to that of taking in by false weights, lying advertisements, and adulteration. Bad things, no doubt, but better. Political economy was no poetry, as one gentleman had said, but a science, and a very hard and painful science at times. He had read that day in the papers of a notable scheme of our American cousins, who, being struck with the paucity of native literature, had proposed to lay so heavy a tax upon all productions of English literature, that Americans shall be forced to think and write for themselves. A hope had been expressed that a tax of 250 per cent. upon Shakspeare might prove prohibitive.

Dr. Hodgson, in reply, said it was a misapprehension to suppose that those who defended the principles which underlie all society defended also all the accidents of the time. They were supposed to defend low wages and starvation; but he would ask, how would you prevent this by altering the fundamental conditions of society? How would you make people honest by preventing competition, or by removing liberty? There was an enormous mass of evils which he could not explain, though he could mention two causes of social disturbance. There had been a great number of legislative interferences, and we were now suffering from many of the legislative blunders of our ancestors. When we had ascertained certain conditions, it was the most logical course to charge an evil upon the violation of these conditions, just as a physiologist considered diseases as caused by disobedience of natural laws, and by disturbances arising from the individual ignorance of mankind. He had no doubt that great harmony would arise if these laws were understood and acted upon generally. When the law interfered to prevent the selfishness of one man from injuring another, it might remove an enormous amount of evil. The use of short weights and measures, and the practice of adulteration, ought to be punished most severely. In practice, at present, these things were followed by a fine altogether inadequate; for the man who picked a pocket was (he thought) an honest man, compared with those men who thus pursued a course of robbing their neighbours; and these things should be put down.

ART MOVEMENTS IN NEW YORK.

Architecture and its cognate arts, in the teeth of the progress and civilisation which are being developed in the first city of the United States, are at present at a very low ebb. There is a struggle with artistic aims; but it is only a struggle, resulting, for a while, in uncertainty and confusion infinite. Perhaps it may interest the general reader, and, at the same time, prove of assistance to those who are striving to advance art-education, if we view the latest efforts which the citizens of New York have felt themselves called upon to make in increasing the embellishment and attractiveness of their magnificently-placed city.

During the autumn which has just passed, some of the leading residents have taken part at meetings which were summoned, in the first instance, at the Union League Club, for the establishment of an art museum. Each of these meetings included persons of influence and cultivation, who have seen with anxious eyes and a certain amount of self-reproach, the growth of the Department at South Kensington, and especially its steady and striking increase in the treasures of its art museum, and who accordingly attended to declare their willingness to found a similar institution in their own city; so that both the decision to establish such an art museum and the *locus in quo* are indisputably assured to all who recognise such a foundation as a popular need and a public benefit. This museum is to have direct and positive aims. It is not merely to be a lounge for the idle, or a means of amusement and sight-seeing to the casual frequenter. It will define and exhibit the early steps of art education, by the arrangement and classification of models of excellence, acknowledged by every one, artist or amateur, who takes pains to understand their value and significance; and it has been felt by those who have been most concerned in the origin of this important undertaking, that it has to supply and provide for the great want of proper artistic perception which is only too frequently shown by the wealthier classes and those who manifest the effects of an education in which art has had no voice.

New York may be said, singularly enough with its incessant enterprise, to be exceptionally unfortunate in not possessing citizens of public taste and intelligence sufficient to have founded a school of art long ago. A Peabody in art education, it would appear, is no more easily found than a Phœnix. Collectors of pictures and articles of virtu and luxurious display, exist by the thousand. But who sees their collections? And when they are seen, of what account, character, or instructional value are they? The Stewarts, Astors, and Vanderbilts, possessors of untold millions, are notorious either for a segregativeness that would do honour to Daniel Dancer, or for an ostentatious squandering in architectural follies that display a vulgarity and a disdain of the simplest rules of construction and beauty, such as could hardly be matched elsewhere. The examples of ugliness displayed in their public stores and so-called "palatial" residences, do but accustom the American eye to a false taste, and vitiate it with an ignorant satisfaction that are hard indeed to eradicate, especially as these examples move the masses by their stupendous size and gigantesque proportions. Such men, moreover, are frequently inclined to great public acts of generosity; but they lack concert and purpose to combine for the general good, even in what they undertake. When they contribute funds, it is but fair to allow that there is no mean parsimonious spirit presiding in their donations. They give largely and freely, and like princes, but they give, it would seem, too frequently, more as a matter of ostentation than to help a great public want. With every respect for the value of the bequest just made by Mr. James Lenox, of his pictures and unrivalled library,—in which are some of the rarest Biblical treasures extant,—it may be asked why the collection was not added to the Department, which has already done much, and that much most worthily, for the Art Education of New York citizens. Why could not Mr. Lenox have incorporated his collections with the Art Museum which is to be located in the noble domains of the Central Park? This park is a public ornament of which any city might, indeed, be proud, and its features have been perfected by a skill and intelligence that augur well for any further development of the artistic aims of the authorities, under whose charge it has come to its present attractiveness. And, by the way, England may be congratulated on the fact that this imperial work has mainly been the result of the genius and taste of two Englishmen,—Mr. Calvert Vaux and Mr. Jacob Wrey Mould, the one a pupil of the late Mr. Cottingham, and the other of Mr. Owen Jones. The principal attractions of this, the very lungs and breathing-place and daily resort for all classes of citizens, from the dashing driver of the four-in-hand to the *gamin*, who is here provided with a special playground and cricket-field, may be summarised as follows. And our first observation justifies us in asserting that Nature has done so much for the park that in many instances the ground, with its wild beauty and rich disposition, has been left to itself, and that there has been little or none of the "manufactured wilderness," such as may be seen in the Bois de Boulogne or at Alton Towers. Foot-paths, bridle-paths, and carriage roads, permeating and circuiting the area of nearly 1,000 acres, are entirely distinct one from the other. In the centre rise the two large reservoirs of the Croton Water Works, which supply the city of New York with a pure uninterrupted flow of unimpeachably fresh water. The three lakes and the waterfalls are fed from this source. On the larger lake, over twenty acres in extent, an admirably-arranged service of pleasure-boats is established; and immediately beyond this lies "the Ramble," a secluded shrubbery, spread over 40 acres, for "talking age and whispering lovers made," with rustic paths and seats, and summer-houses, dotting the more picturesque elevations. During the winter there is a skating carnival on these lakes, visited by all classes. Noticeable, also, is the inception of a zoological collection which it is proposed to locate worthily on the western side of the park. Mr. Waterhouse Hawkins, of Sydenham notoriety, has been engaged to create the palæontological department, and has already produced illustrations of some of the indigenous fossilized pre-Adamite animals belonging to the American continent. Two well-organized places of refreshment supplement fitly these popular grounds; there is also the nucleus of a botanical conservatory, on the model of the great palm-house at Kew, which the Commissioners hope to amplify to the dimensions and functions of the edifice which it is to rival on their side of the Atlantic. Although we have used the term "Commissioners," and the Board consists of seven members, it is no breach of confidence to assert that the whole credit of the official control of the park for the last eight years is to be unhesitatingly awarded to Mr. Andrew H. Green, formerly president of the Board of Education, and a distinguished lawyer in the City of New York. Amid the universal corruption and misuse of office which unhappily have rendered the city notorious in the eyes of its worthiest citizens, the management of the central park can be referred to as singularly honest, pure, and unsullied by any mean motive at all. Mr. Green has worthily held power, though, in some instances, he is to be blamed for not sufficiently trusting to and confiding in the superior intelligence and knowledge of the able professional assistants with whom he has had to co-operate. Other blame there is none, and it is but fair to observe that he, perforce, it may be, of the educating influences of the park itself, is gradually

becoming sensible of this the one defect in his management.

It will be allowed that this locality is indisputably the site for the future Art Museum, surrounded by the varied natural and artificial attractions of the park, away from *fumum strepitumque et opes* of the City, and an additional ornament in itself to that which, we repeat, is already the art-distinction of New York. A high-class edifice will worthily auxiliarise the evidences of educated taste, which the park already owes to its architect, Mr. Jacob Wrey Mould. Those who are best informed have not been slow to acknowledge the merits of this gentleman. A genuine art critic, one of the first in the empire city, thus describes the terrace, which furnishes some of the most graceful of Mr. Mould's designs in the park:—

"On leaving the Hall we come out upon the lower terrace between the two great stairs that descend to it from the carriage-road. These staircases have been designed with a view to receive a great deal of ornamental sculpture, and much of it has already been executed. There are, of course, two balustrades with their posts and ramps to each of the two staircases, and the four have been made emblematic of the seasons. On the newel-posts of the balustrades are carved on three sides the animals and fruits that belong to the several seasons,—bees, birds, butterflies, grapes, and berries. The balustrades themselves are formed of panels and open borders, each panel being filled with a flower or fruit in the balustrades belonging to Spring, Summer, and Autumn; while those of Winter are prettily designed with the leaves and cones of evergreen, and in one of them is a pair of skates. All these panels are designed with the idea of keeping as close to nature as possible, conventionalising the objects no more than has been necessary to bring them into the squares of the panels. The freest and most elaborate sculpture has been reserved for the ramps which take the place of balustrades between the first landing and the posts at the head of the stairs. The designs for these ramps are composed of flowing scrolls, formed by the branches of flowing plants, among which birds hover, alight, and play. On no public building in America has there yet been placed any sculpture so rich in design as this, or so exquisitely delicate in execution. It is not saying as much as it may seem to declare that all the sculpture on the walls of the Houses of Parliament in London is not worth, either for design or execution, these four ramps of the great stairs of the terrace alone."

We cannot but add a hope that Mr. Mould will be entrusted with the erection of the edifice which is to be devoted to the future progress of art-education in New York.

New York.

GOOD ROAD-MAKING.

WE are so much accustomed to the muddle and want of intelligence frequently displayed in work done by vestries or boards, and our feelings are so continually harassed by seeing the cruel way in which fine-limbed horses, drawing narrow-felloed wheels, are compelled to level the roads for their own use, that it is quite refreshing to notice a case of the contrary kind.

I allude to the laying down of new "Macadam" in York-road, Lambeth, which is now going on. The pieces of granite are not too large to pass through the original "test-ring" of the inventor; a portion of gravel is mixed with the granite; the road is well watered, and then a powerful but very compact steam roller (I do not know the maker's name, and this is not meant for an advertisement) is passed over the whole, and, in a very short time, a smooth and compact surface is produced. The work is done in sections, determined by the intersection of cross-streets, along which the traffic can be diverted, thus avoiding the danger which might arise if the roller were driven amongst the horses.

I do not know to what body the adoption of this plan may be due, but they certainly deserve credit for producing a capital road with rapidity, and saving of wear and tear both to horse and vehicle.

VIATOR.

THE following will interest some of our readers:—Statement of the cost of repairing the Macadamised road in the Upper-street, Islington, from the Cock Tavern, at Highbury, to the Angel Tavern, Pentonville-road, by thoroughly breaking up and levelling the surface, coating same with broken Guernsey granite, and using Hoggin as a binding material, together with the cost of rolling it with Aveling & Porter's Steam Road-roller, and expenses incidental thereto:—

Labour, Material, &c., for Repair.

	£.	s.	d.	
Labour, picking, levelling, and spreading	74	15	10	
Granite	1,030	17	4	
Hoggin	67	3	0	
Tools	9	18	0	
One-horse cart attending	7	13	0	
				£1,190 7 2

Rolling, and Expenses incidental thereto.

	£.	s.	d.	
Time, 31½ days.				
Rolling	63	0	0	
Labour, sweeping in hoggin, and attending	35	15	8	
Watching	12	5	0	
Candles	2	1	8	
Coals	1	19	0	
Coke	10	13	9	
Wood	0	3	10	
Water-cart	10	7	2	
Water	1	18	9	
				138 4 10
Total				£1,328 12 0

Surface of road repaired and rolled, 20,750 yards superficial.

THE following report of the Liverpool borough engineer as to the cost and working expenses of the steam-roller was laid before the staff sub-committee of the local Committee of Health:—

"The first cost, carriage, and other expenses of the steam-roller was 1,010*l.*—say 1,000*l.*; allow its life to be five years, and 5 per cent. interest on cost, 25 per cent., 250*l.*—or per month 20*l.*, or per week 5*l.*, or per day 1*l.* (assuming its working days to be five per week, one day being allowed for repairs); first cost and interest, including wear and tear per day, as above 1*l.*, and including working expenses, 1*l.* 17*s.* 10½*d.* per day. During the three months ending March 31st the steam-roller was unemployed 42 working days."

The sub-committee resolved:—

"That the charge for the hire of the steam-roller be 2*l.* 2*s.* per day, the Corporation providing fuel and three men."

Mr. Whitty, in moving at the Health Committee Board the confirmation of the proceedings, said that the expense of working the roller came to 498*l.* a year; and it was for the committee to say whether the roller was of sufficient use to justify the expenditure. Mr. Davies, deputy borough engineer, said that at times the steam roller was very valuable, because they got the macadam set by it in one day, while it would take a week to set the macadam by the ordinary means. It was resolved that the charge per day to the out-townships for use of the steam roller should be 2*l.* 10*s.* The proceedings were then confirmed.

EASTER ISLAND.

A LECTURE on "The Origin and Migrations of the Polynesian Nations," read before the Royal Society of Sydney, New South Wales, by the Rev. Dr. Lang, and reported in the *Sydney Morning Herald*, has been forwarded to us. In this lecture Dr. Lang maintains that the Americas, South and North, were probably peopled with their so-called "Indian" natives from the Pacific or Polynesian islands, and especially from Easter Island, which is one of the nearest to South America. The Polynesian nations themselves, he considers, emanated from the Malayan stock, spreading eastwards throughout the islands, even to the Americas. He points attention to the evident affinity of the Malays, the South Sea islanders, and the American Indians, in race and in habits and characteristics, in corroboration of his theory; and to the objection that the trade winds were much more likely to lead the population from the Americas westward through the islands, he opposes the fact, which he has himself experienced, of strong gales eastward which were likely to drive canoes or other vessels from Easter and other islands to the American shores.

Dr. King, as a clergyman, limits the time requisite for such migrations from the Malayan districts through the Pacific islands, to America, to the period which has transpired since the Deluge, according to the literal interpretation of Scripture.

Of the lecturer's remarks on the Easter Island and other Polynesian monuments, and his ideas as to how these bear upon his theory, we may quote some passages:—

"The South Sea Islanders were not savages when they discovered and took possession of America. They had carried with them from the cradle of their race—the islands in the Indian Archipelago—a peculiar type of civilisation, of which they have left us numberless monuments all over the Pacific, and of which the comparatively high civilisation of Peru and Mexico at the period of the Spanish conquest was merely the natural development. Easter Island itself presents us with a remarkable example of the skill they had attained in the management of the mechanical powers.

'The most remarkable objects in Easter Island,' says Mr. Ellis, 'are its monuments of stonework and sculpture, which, though rude and imperfect, are superior to any found among the more numerous and civilised tribes inhabiting the South Sea Islands. These monuments consist in a number of terraces and platforms built with stones, cut and fixed with great exactness and skill, forming, though destitute of cement, a strong durable pile. On these terraces are fixed colossal figures or busts. They appear to be monuments erected in memory of ancient kings or chiefs, as each bust or column had a distinct name. One of these, of which Forster took the dimensions, consisted of a single stone, 25 ft. high, and 4 ft. wide, and represented a human figure to the waist; on the crown of the head a stone of cylindrical shape was placed erect: this stone was of a different colour from the rest of the figure, which appeared to be formed of a kind of cellular lava. In one place, some of these statues or busts stood together; one, which they saw lying on the ground, was 27 ft. long, and 9 ft. in diameter.'

Monuments of a similar and colossal character are found also in other groups of the South Sea Islands, besides those I have alluded to, and particularly in the Marquesas Islands, situated between the 8th and 10th degrees of south latitude, and in 140 degrees west longitude. 'At the base of one of the mountains,' observes Mr. Herman Melville, an intelligent American mariner, the author of a work, entitled 'Typee, or a Narrative of four months' residence among the Natives of a Valley of the Marquesas Islands;'—

'At the base of one of the mountains, and surrounded on all sides by dense grass, a series of vast terraces of stone rises, step by step, for a considerable distance up the hill side. These terraces cannot be less than 100 yards in length and 20 yards in width. Their magnitude, however, is less striking than the immense size of the blocks composing them. Some of the stones, of an oblong shape, are from 10 ft. to 15 ft. in length, and 5 ft. or 6 ft. thick. Their sides are quite smooth; but, though square, and of pretty regular formation, they bear no mark of the chisel. They are laid together without cement, and here and there show gaps between. The topmost terrace and the lower one are somewhat peculiar in their construction. They have both a quadrangular depression in the centre, leaving the rest of the terrace elevated several feet above it. In the intervals of the stones immense trees have taken root, and their broad boughs, stretching far over, and interlacing together, support a canopy almost impenetrable to the sun. Overgrowing the greater part of them, and climbing from one to another, is a wilderness of vines, in whose sinewy embrace many of the stones lie half-hidden, while in some places a thick growth of bushes entirely covers them. There is a wild pathway which obliquely crosses two of these terraces; and so profound is the shade, so dense the vegetation, that a stranger to the places might pass along it without being aware of their existence.

These structures bear every indication of a very high antiquity, and Kory-Kory, who was my authority in all matters of scientific research, gave me to understand that they were coeval with the creation of the world; that the great gods themselves were the builders; and that they would endure until time shall be no more. Kory-Kory's prompt explanation, and his attributing the work to a Divine origin, at once convinced me that neither he nor the rest of his countrymen knew anything about them.

As I gazed upon this monument, doubtless the work of an extinct and forgotten race, thus buried in the green nook of an island at the ends of the earth, the existence of which was yesterday unknown, a stronger feeling of awe came over me than if I had stood musing at the mighty base of the Pyramid of Cheops. There are no inscriptions, no sculpture, no clue, by which to conjecture its history—nothing but the dumb stones. How many generations of those majestic trees, which overshadow them, have grown and flourished and decayed since first they were erected!' (Typee, page 173.)

And in reference to the period at which these remarkable monuments of the ancient Polynesian race were originally erected, the same intelligent writer coincides entirely with myself as to their high antiquity.

'These remains,' he observes, 'naturally suggest many interesting reflections. They establish the great age of the island.' . . . . 'For my own part, I think it just as probable that human beings were living in the valleys of the Marquesas three thousand years ago, as that they were inhabiting the land of Egypt.' (*Ibid.*)

Now surely the men who could move and sculpture such immense blocks of stone as these were not savages. On the contrary, it is evident that they had the whole type of the civilisation that prevailed in the world, at the time when their forefathers were separated from the rest of mankind in their island homes, photographed, so to speak, upon their minds, and ready to be reproduced in all its parts whenever they should find a suitable field for its reproduction or development."

Society of Arts Conversazione.—A *conversazione* will be held by the Society of Arts at the South Kensington Museum on Wednesday, the 4th of May.

CHANCEL GATES.

THE churchwardens of St. Mary's, Taunton, have been cited before the Consistory Court of Wells to answer—

"Certain articles, heads, positions, or interrogatories to be administered to them by virtue of the office of our judge aforesaid, touching and concerning their souls' health, and the lawful correction and reformation of their manners and excesses, and more especially for having lately made, erected, or built a stone wall or screen on each side of the west end of the chancel of the said parish church, with a gate or gates between such walls or screens; and also for having lately removed the steps on the north and south sides of the said chancel, and destroyed the avenues or passages whereby the said chancel was heretofore approached from such steps respectively, by covering such avenues or passages with stalls or seats; and also for having lately removed the communion rails of the said parish church, without setting up the same or other suitable and proper ones in place and lieu thereof."

The case was heard before Dr. Wallis. The Rector (the Rev. W. R. Clark) said he had a petition from 420 parishioners against the suit, but he believed he could not present it.

Dr. Wallis said he could not, as the parishioners were not cited.

Dr. Wallis gave judgment against the churchwardens, and ordered them to remove the gates, the other question having been compromised.

At a vestry meeting since held, a resolution was adopted, by 50 votes to 13, accepting the decision of the Court as a "temporary necessity," but regretting the removal of the chancel gates.

SHORT HINTS ON CHURCH BUILDING AND FITTINGS.

SIR,—The following hints, briefly put, the result of some personal experience as a member of a Church Restoration Committee, may be useful to some of your readers:—

Architect, of some existing good model, to be selected.

Inspect several churches, and learn their merits and defects.

Plans should be laid before any church building societies whose aid is desired, at an early stage, or grants may be withheld.

Estimate to include all internal fittings and furniture; as, communion plate, chancel furniture, window blinds, organ, bells, lightning-conductor, clock (if intended), and heating apparatus; and external approaches, railings, boundary walls, and drains.

A fourth, or sixth, to be added to the estimate, for omissions, contingencies, and possible high lettings to contractors.

Number of sittings (at first, and ultimately) to be determined on.

Transepts are convenient for future galleries.

Galleries in the nave and choir are unsightly, darkening, and unwholesome.

Style to be selected or accommodated to secure abundant light, uninterrupted seeing and good hearing.

Comfort to be preferred to ornament.

A dry basement to be secured, but with as few *steps* as possible, for the sake of the aged and infirm.

Heating to be, if practicable, by constant inflow of fresh air, over hot-water batteries and coils, with circulation of hot-water also. A low heat for several days, better than a higher one on the Sunday only.

Vestry, near desk and pulpit.

Doors, numerous; so that all on the windward side may be closed on stormy days. All to have inner doors also.

Windows, *double*, to exclude heat in summer and cold in winter.

Roof, double, or felted or boarded, for the same reason.

Entire windows or lights to be made to open, if possible, *as well as portions* of them, so that all leeward windows can be opened wide in hot weather.

Window glass, generally *plain*, for light.

The *east* windows of coloured glass, to soften the light.

Roof ventilators only produce down-draughts, unless fitted with gas-jets or sun-lights, or with cowls having their openings turned from the wind.

Echoes, if any, to be prevented by open tie-beams, drapery, cordage, &c.

Pulpit low, if no galleries.

Desk to face the people, for audibility.

Seat-backs to have slight slope or curve, and to be flat at the top, for those behind to sometimes rest their books on, when standing.

Book-shelves to have a rail to prevent dresses sweeping books off.

Pews to have doors (high or low), for warmth. The partitions should come down to the floor for the same reason.

Kneeling-boards or hassocks, throughout, in pews and free seats.

Umbrella supports and drains to each pew, as at Meltham Mills, Huddersfield.

Seats of Sunday School children and aged poor, to be well placed for seeing and hearing, and therefore near the pulpit and desk.

Free pews, some in the *centre*, at the back, as at Christ Church, Harrogate, as well as in the *aisles*, and *so marked*; and notice to be placed outside the church accordingly.

There seems no sufficient reason for the seats being generally free. Families should sit *together*, and in their long-accustomed places. The absent would thus at once be missed. Heavy large-print books should not have to be carried to and from church. Strangers should not have to stand a moment after the service or organ begins, but should be at liberty to take any vacant seat, whether offered or not.

Gaslights to be abundant, and equally diffused, by string-course pipes, standards, or brackets. Brackets, if any, to be very delicate, and gracefully curved.

Any texts on the walls to be in plain legible characters. The selection at Lockwood, Huddersfield, is carefully made as to subject and length. A moveable curtain to be contrived for a small week-day congregation to be seated *together*.

Organ to be of little power, but sweet tone, of good metal, and without a case.

Clock, illuminated, may be made to turn on and off its own gas.

Superintendence.—A gentleman building a *house* for himself should be able to give nearly his whole time to it, either at the architect's office, the contractors' shops, or the place itself. In no other way can absurd blunders, culpable irregularities, and needless delays, be prevented. A degree of the same attention will be required from a church-building committee, in addition to the services of a clerk of the works.

The writer of the above has since met with Mr. E. B. Denison's able, interesting, and practical little volume of "Lectures on Church Building." Second edition. Bell & Daldy, 1856. Price 7s. 6d. It confirms many of his own views. Reference may be made to it on the following points in particular.

Style, p. 118; transepts, p. 138; roof, pp. 236, &c.; seats, pp. 243, 244; pulpit, p. 247; ventilation, pp. 241, 261; heating, pp. 258, 260; gas, p. 262; organ, p. 265; bells, pp. 153, 290; alterations and bills of quantities, pp. 209, 210.

H. N. C.

HANDY RULES.

THE following is a rough-and-ready way to find the contents of circular tanks, wells, and pipes:—

Square the diameter in inches, and cut off the right-hand figure as a decimal, and the result will be gallons in each 3 ft. (yard) of depth,—or length, if a pipe; as,—

PIPES.

Diameter. Inches.	Inches.	Square.	Gallons in 3 feet.
2	2 × 2 =	4 or	0·4
4	4 × 4 =	16 or	1·6
6	6 × 6 =	36 or	3·6
12	12 × 12 =	144 or	14·4

WELL OR TANK.

36	36 × 36 = 1,296	or	129·6
72	72 × 72 = 5,184	or	518·4
100	100 × 100 = 10,000	or	1,000·0

To turn francs into pounds sterling English. Multiply by 4 and cut off two right-hand figures; as,—

100 francs	£4
1,000 ,, ...	40
10,000 ,, ...	400

And so on—

25 francs	£1
50 ,, ...	2
75 ,, ...	3
1 franc	10d.

By using this rule, French money may be turned into English; that is, its value in English money may be seen at a glance.

To turn English pounds sterling into francs, reverse the process: divide by 4 and add two cyphers; as,—

£4	100 francs.
40	1,000 ,,
400	10,000 ,,

To illustrate the rule practically, take the *Times'* report of the sale of the San Donato collections of pictures, Paris, and it is there stated that—

	Francs.	£.
11 Bouchers sold for	141,600	5,664
Jeune Fille implorant l'Amour...	50,000	2,000
La Toilette de Vénus	23,000	920
2 Joseph Vernets	8,800	352

And so on.

This rule assumes that 25 francs are the value of one pound sterling, and is near enough for the rough-and-ready purpose indicated.

THE DRAWINGS OF THE HOUSES OF PARLIAMENT.

LIVERPOOL ARCHITECTURAL SOCIETY.

AT the meeting of this society, on the 20th ult., Mr. Boult moved, and Mr. H. H. Vale seconded, the following resolution, which was unanimously adopted by the meeting:—

"That this society much regret to learn that the First Commissioner of her Majesty's Public Works should have been induced to prefer any claim to the ownership of the drawings and other documents prepared for the works in the Palace of Westminster, thus departing very widely from the practice of his predecessors in office for a period of thirty years; and this society, being strongly of opinion that the plans, specification, and other documents employed by the architect in carrying out his designs are, and continue to be, his sole property, hope that the architect, Mr. E. M. Barry, will steadfastly resist the claim of the First Commissioner of her Majesty's Works, as otherwise the rights of the profession to retain their property in such documents will be seriously imperilled."

The subject given by the Council for the annual students' competition had been responded to by an unusually creditable set of designs, from which the first prize was awarded to Mr. Chas. Townsend, and the second to Mr. E. Banner. The subject was a design for a park entrance combined with lodges.

Mr. Parslow read a paper entitled "Science in Architecture," including a considerable number of practical recommendations with regard to details of building construction.

ARCHITECTS' DRAWINGS.

SIR,—An old proverb says, "There is nothing new under the sun." What has just happened relative to M. Barry's discharge from the Houses of Parliament had its prototype with another of our national monuments more than 150 years ago. Mr. Penrose, in a paper read before the Royal Institute of British Architects in 1859, stated, with reference to St. Paul's Cathedral, that "on April 26th, 1718, Sir Christopher Wren, after forty-four years' superintendence, was dismissed from the office of surveyor, and an ignorant person named Benson was installed in his place; but, after a year's trial, was dismissed in consequence of his incapacity."

How similar is the case now under discussion. For somewhat such reasons as actuated Wren's dismissal, Mr. Barry has been superseded by officials of the Office of Works, whose names no one has ever heard before, and from what specimens we have of their powers of artistic design in the New Post Office, Regent's Park, and elsewhere, were certainly educated when art was at a very low ebb, and have not improved since; the whole to be under the superintendence and direction of a gentleman educated as a military engineer, who, however accomplished he may be in other respects, is certainly not an architect.

With regard to the ownership of the Westminster Palace drawings, it is, I think, very much to be regretted that the Council of the Royal Institute of British Architects have not taken some more efficient action in the matter, being as they are, in a measure, the governing Board of the profession.

Mr. Ayrton stated in the House on the 31st ult. "that certain architects had resolved they were entitled to keep the plans prepared by them for persons who had also paid for such plans." Is this totally correct? Is the architect paid for the drawings? Is he not rather paid for designing, &c.? Are not the drawings, as you have said, merely his tools as much as his pencils, or the stock deed the tool of a solicitor?

It is possible for the works to be carried on without drawings if the architect be constantly on the spot to direct, but this would prove too expensive a method for the present age, though often used in the past; the drawings are therefore prepared by him for his own guidance and that of persons under his direction, and if submitted to the client previously to execution are merely so done in explanation of his ideas. Much difficulty might possibly be avoided if the architect's charge to his clients ran as—"For designing and superintending the erection of, &c.," instead of "For preparing plans, specifications, &c., and superintending the erection, &c."

The worth of the material and construction of the works is paid to the builder; the worth of the arrangement and design (that is, the architect's skill and thought) and securing efficiency of execution is paid in the form of commission to the architect. The drawings are not paid for, and why should the client receive his money's worth twice over by their becoming his property? Besides, if the drawings are the property of the client, those which are delivered to the builder for the purpose of carrying out the works (and for which the architect is scarcely ever paid) are surely the ones which should be so considered, and let the client recover them from the builder if he can. And further, if, notwithstanding all this, the second set of drawings is to become the client's property, there is no resource but to do as solicitors do; that is, charge for drafts and copies to keep.

A relative case deserving of attention is that in which drawings are prepared, but the works from some cause or other are abandoned for the time, and the drawings are delivered to the client (as they must be, for the law, or

rather equity, will always give "*quid pro quo*"). Ultimately, however, the works are carried out by the same architect, and from the same drawings delivered to him for that purpose. To whom do they belong?

ROBT. E. T.

PERMIT me, Mr. Editor, to say that the profession in the provinces are watching with some anxiety the result of the conflict between the First Commissioner of Works and Mr. E. M. Barry.

As a provincial architect, I feel that should Mr. E. M. Barry determine to give up the drawings demanded by Mr. Ayrton, a very awkward precedent will be established, and one which to a certain degree will entirely overrule the now acknowledged custom of the profession, that all drawings of a building are and do remain the sole property of the architect. I think the case might be viewed in this light: if, as stated in your quotation from the *Echo*, all constructive drawings do belong to the individual who has satisfied the architect's charges, then in equity might it not be said that since these drawings are the property of this individual, he can dispose of them in any way he may think fit: for example, sell them to some friend who purposes building?—and consequently this friend would have the full advantage of the architect's abilities without paying one farthing to the architect. Surely, Mr. Editor, this cannot be said to be either justice or equity.

I do, therefore, trust that Mr. Barry shall feel it to be his duty to resist to the very last Mr. Ayrton's demand, were it for no other reason than that by acceding to Mr. Ayrton's claim a serious and positive injury will be done to the profession.

R. S. INGRAM.

TASTE ON THE THAMES EMBANKMENT.

THE Metropolitan Board of Works, which possess so much power, and which might do so much to guide public taste and evolve artistic feeling, strain at a gnat, but swallow a camel. This is illustrated in their doings, by what they have demanded, and what they have permitted, on the Thames Embankment.

At the Charing-cross Station of the Metropolitan District Railway the Metropolitan Board have exercised their powers of interference, and we dare say rightly. The station, it was supposed, would be unsightly, and they stopped the works. A compromise has been effected. The station is to be hidden by a screen wall, and that, again, is to be hidden by a triangular mound of earth, sown with grass or covered with turf. The Board have even ruled that only white bricks are to be used in the construction of the sewers; and not only so,—the bricks are laid out and the shades assorted, so that there may not be any violent contrast in the work which nobody is to see; and yet they intend to allow such a fine work as the Thames Embankment should be, to be damaged at its eastern end by tramway accommodation across the Embankment, provided for the gas-works at the bottom of Whitefriars-street, which ought long since to have been removed. The Embankment will be degraded by having coal-quays, and coal-barges delivering at them, unless public opinion or a higher authority interpose to prevent this.

S.

SCULPTURE AND ARCHITECTURE.

THE current number of the *Fortnightly Review* contains an essay by Mr. F. T. Palgrave (originally delivered as a lecture at Cambridge) on "The Practical Laws of Decorative Art," wherein occur some remarks on the decorative function of sculpture in connexion with architecture which are well worth the attention of some of our architects. Adopting the principle that accessory ornament should always be of subordinate interest to the whole work which it serves to decorate, Mr. Palgrave protests, with complete consistency, against the too lavish employment of mediocre sculpture in many modern buildings, resulting, as he says, in an expenditure totally disproportioned to the effect obtained.

"Among the three fine arts of design, sculpture is at once the most difficult and the most directly intellectual. It follows at once from this—follows irresistibly—that it should be rarely employed, and employed to give the highest point of effect. Although, looking at the building as a whole, we may regard its sculpture as part of its ornament, yet the sculpture itself is, by the very conditions of the art, the most removed from the merely ornamental. It is a contradistinction to first principles, and hence sure to be followed by ruinously bad effect, to employ it profusely and to employ it decoratively. In sculpture there is absolutely no middle way between the good and the bad: it is a success or a failure. The most powerful means of giving beauty; it is hence, also, the most dangerous. A figure is in itself an appeal to the mind; when, therefore, we discover a mere piece of ornament instead, we experience an anti-climax; the effect of it is not simply neutral, it is positively injurious to that of the building."

Upon these premises, Mr. Palgrave charges the architectural profession, alike of Mediæval and of modern days, with having constantly designed as if all the good sculptors in the world had been at their command. "We see altar-screens framed to hold fifty figures together; niches and pinnacles and pedestals between every window." And as from the difficulty of the art it has been rare to find more than two or three efficient sculptors in a whole century, the result has been a quantity of mediocre sculpture on the façades of Gothic cathedrals, in a style which the modern revivers have introduced again, from a mere sentimental admiration for all that belonged to the Mediæval period. A friend to the Gothic architectural revival, Mr. Palgrave regards the accompanying revival of Gothic sculpture as doubly unfortunate:—

"For not only are our modern buildings disfigured by a crowd of beings in crumpled folds, innocent of anatomy, and inexpressive in form, but the peculiar early sentiment, the *naïveté* of Gothic times (such as it was), being irrecoverably gone, the enormous majority of these figures lose the one genuine interest of their originals; they are an eyesore to all familiar with good work, and lower the popular standard of sculpture, already low enough."

And even were all these of Phidian excellence of execution, yet it is to be remembered that *all* sculpture is no sculpture. The power of the art is limited in proportion to its intensity, and "to have little sculpture, but that little of first-rate quality," is the only safe rule for the architect.

We draw attention to these remarks, of which we have quoted the salient points, as the criticism of a thoughtful amateur, and worthy of the consideration of architects who are inclined to sin in sculpture. The doctrines laid down in the essay are generally such as will not, indeed, be new to most of our readers, but they will very well bear repetition.

BRICKLAYER FINED FOR NOT PARGETING FLUES.

WE hope the following will prove a warning:—

At Wandsworth Police Court the other day, Thomas Maddock was summoned for a penalty on workmen, under sec. 45, for infringing one of the rules of the Building Act, sec. xx., cl. 4, by not "pargeting" flues. Mr. Hansom said the defendant was a bricklayer employed by Mr. Loud; he found that the flues of twelve houses in Livingstone-road, Battersea, had been carried up without being pargeted on the inside as the work proceeded. He said it was a novel proceeding, for there was little or no economy in not pargeting the inside of the flues. By not doing so it would probably prevent the smoke from rising through the chimneys, and become a source of annoyance to future tenants. Mr. Loud said he had told the defendant it would be better to have the flues pargeted, but he did not think it would prevent the smoke rising. He had built a number of houses, but he did not know whether the chimneys were pargeted. He had not received any complaints of smoky chimneys.—Mr. Hansom said he had inspected the other houses which Mr. Loud had built, and could speak to their being pargeted.—The defendant said he did not understand the Act of Parliament.—Mr. Ingham said it was part of a system which prevailed of making buildings look substantial and correct, when in fact they were not. It was a most gigantic fraud upon persons who were foolish enough to buy houses so constructed. He had had to complain of masters, but now it was a workman who had scamped his work; and to mark his sense of it he should fine the defendant in the full penalty of 50s. and 2s. costs, or one month's imprisonment. The fine was paid.

MADELEY UNION WORKHOUSE COMPETITION.

WITH reference to some observations in our issue of the 9th, headed "Management of Competitions," we have received a letter from Messrs. Haddon, in which they say,—

"That so far from having sent in a 'highly-coloured perspective,' ours was tinted entirely with sepia, except a slight wash of neutral tint over a portion of the background, to 'throw up' the buildings, and give distance to the view; and this we do not conceive to be a departure from the instructions."

They give reasons, doubtless very good ones, for naming a larger sum than the other competitors (but this does not touch the point in question), and say that "the premiation of the designs was referred to three gentlemen, members of the board, of whom one is a retired architect, who, whilst in practice, had a very large experience in the construction of workhouses; another, a builder, who has carried out some extensive works under leading architects in different counties of England; the third, a gentleman, who, from having the management of important manufacturing works in the neighbourhood, has in that position acquired a considerable degree of knowledge in building operations."

"Throughout the competition," they conclude, "we scrupulously adhered to fair and honourable principles, and if Mr. Griffiths can prove anything to the contrary, we shall be willing to yield our position in his favour."

LINE OF FRONT: METROPOLITAN MANAGEMENT ACT.

Metropolitan Board of Works v. *Abbott*.—In this case, heard at the Lambeth Court on the 2nd inst., before Mr. Woolrych, Mr. Abbott, a builder, was summoned for erecting a dwelling-house, in contravention of the 98th section of the Metropolis Management Act, 1862, by not leaving in front of such house a road of 20 ft. in width to the crown or centre.

It was stated that the house in question was situated at the corner of Blewitt-street and Pleasant-row, at Walworth, and fronting on Blewitt-street, which was a new street, formed by the sanction of the Board to a width of 40 ft. Pleasant-row is an old way less than 40 ft. wide. Since the erection of the house in question, other buildings had been erected in Pleasant-row, which brought that street partly under the jurisdiction of the Board, who had required the same to be widened in front of the new buildings. The contention of the Board was, that the house at the corner of Blewitt-street should have been set back so as to give the full statutory width to Pleasant-row, in case that row was at any time afterwards, or, in fact, as it was subsequently, brought under the jurisdiction of the Board.

The requirement is one of serious consequence to owners and builders of property, as it would place those dealing with properties at the corners of old streets at the peril, at any time within six months of the discovery of the objection, to have a considerable portion of their property confiscated and their buildings pulled down, in consequence of the acts of other owners of property in the same street.

Mr. Reginald Ward appeared, as assistant solicitor to the Metropolitan Board of Works, in support of the summons; and Mr. Rooks, of the firm of Rooks, Kenrick, & Harston, for the defendant.

The magistrate, after hearing the evidence and carefully examining the plans, deciding that there had been no offence under the Act, and that the house having been built, fronting on Blewitt-street, within the line shown on the approved plan, the defendant had a right so to erect this house, even though the result would be that the side street on which the house flanked would still be left as an old street of lesser width than 40 ft. Summons dismissed.

ENGLISH CONVICT PRISONS.

THESE are the establishments where reformatory and remunerative labour can be best carried out, by reason of the longer terms of confinement. Great efforts are being made in this direction, and with much success, especially at Woking, where a variety of useful occupations are enforced; Dartmoor, where waste land is reclaimed by convict labour, and 200 head of stock attended to; and Chatham, where many million bricks are made.

But at Chatham and Portland, although the prisoners are worked hard, their labour is very much wasted; the nominal value of it, especially at Portland, as returned in the official reports, is very high—almost self-supporting indeed. But by the plain test of *marketable value it is almost nil*. What real public service would it be to quarry away even the whole peninsula of Portland, if the stones are not used for *really* useful purposes? Any amount of dockwork or masonry may be projected and accomplished without enriching the nation 5*l*. The convicts at Portland work very hard, yet their labour is mere *exertion* rather than *industry*. And as to the real *value* of the "work" done, *when* done, it is largely artificial and imaginary. An intelligent magistrate, after visiting Portland convict prison, remarked to the secretary of the Howard Association, that the work there (apart from the physical exertion required) is, as to its real value and utility, "*mere child's play*."

"WESTWARD, HO!"

WHERE does the flood of London humanity intend to stop? It seems to be bubbling up on all sides at the same time with concerted action, as if fed from some exhaustless, central ocean; and this ever-flowing tide appears in the richness and strength of its quality to be rolling westward. Its waves are also in motion towards every point of the compass, but the most powerful surge out "Westward, Ho!" and westward it is accordingly. Many of us are old enough to remember the opening of the Finchley-road some seven-and-thirty years ago, and even later, when the Swiss Cottage was the solitary goal of Cockney pleasure-seekers—the *ultima thule* of London civilisation in that direction.

Looking over a plan of London of that period, we find a thin red line—"Proposed Railway from London to Birmingham." But that is not the line we have now. After passing Kensal-green it curved away to the north, crossed Kentish-town about a third of a mile beyond the Mother Red Cap, and terminated at what was then the tile-kilns, by the end of St. Paul's-road, York-road, King's-cross. Another line is a "Proposed Railway from London to Greenwich." The terminus was then intended to be in Church-street. The remaining line was—"Proposed Railway from London to Southampton," the terminus being at Nine Elms. The Greenwich line was the first metropolitan railway having its commencement in London. It obtained its Act in the session of 1833, and opened for traffic on December 26 ("Boxing-day"), 1839. It was partially opened to Deptford in 1836. The "London and Birmingham" Company also obtained their Act in 1833, and the line was opened on the 17th of September, 1839. It was a grand affair that opening, and much was made of the directors' special train running the distance from Euston to Birmingham, 112 miles, in four hours fourteen minutes; and the second train of 200 passengers, only occupying six hours! The South-Western Company obtained their Act in 1834, and the line was opened throughout its whole distance, of 76½ miles, on the 11th of May, 1840. These were all the lines that appeared on the "New Plan of London," published in 1832. What a different aspect a map of the metropolis presents at this day! What would London do now without a railway? And yet it is not much over thirty years, barely a single generation, since there were no such means of conveyance for us here! What would become of the immense holiday crowds who are regularly whirled over the country, fifty miles and back, in a single day, with "eight hours at the sea-side included," if the railways were suddenly to "shut up shop"?

In the quarter of London to which we are now more especially referring, we had, away in the fields, St. John's-wood Farm, a length of Abbey and Wellington roads, commanded, as the strategist would say, by the "Artillery Barracks." The bucolic Finchley-road shook hands with "Life in London" at the Swiss Cottage tavern door, and there met town and country. All before you, and around you, to a quadrant of the compass, were fields, gardens, and farms, with breezy Hampstead up the hill on the right, and the pleasant village of Kilburn away on the left. We are not going into any historical sketch of the neighbourhood, the Northern Heights of London having already had ample justice done them by a much abler hand, but we are going to glance at the progress of building in this direction.

If the reader will look at a suburban map of the metropolis, he will take within his view a large tract of undulating land lying between the Finchley and Edgeware roads. Every one knows where the Edgeware-road is, but the Finchley is not equally understood. If the reader will start from the Primrose-hill side of Regent's Park, and go up Avenue-road, a continuation in the same direction will bring him to what was formerly called the Marylebone-road, and a mile or so further on the Finchley-road began. But all that is altered. There is no "Marylebone" road in that direction now. Avenue-road has swallowed it up as far as the toll-bar, whilst Finchley-road has, by way of compensation to the other fork, been pulled down to the Eyre Arms tavern. All suburban pedestrians of twenty years' standing will remember Belsize Park and Belsize-lane, going from the west up to Hampstead. But all that is changed now. Belsize Park and lane have become Belsize-square, Belsize Park-avenue, Belsize Park-road, and other roads, covered with goodly houses wherein the well-to-do of the City and town rest in the bosom of their families, after their day's labour and their double ride on that valuable, or rather invaluable, convenience, the Metropolitan and St. John's Wood Railway.

Here let us step on one side for a moment to ask a question or two about this said railway. It is a dear little thing, but very small, extending only from Baker-street to the Swiss Cottage, some two miles or so. Indeed, a facetious friend of ours has composed a jingling ditty, which he sings as he rides, with the chorus of "*Our own Swiss Cottage Line.*" There is a junction with the "Underground" proper at Baker-street; but from some cause or other, some of those mysterious reasons which the wisdom of railway management so ably contrives towards the diminution of railway dividends, that junction is never used by the St. John's Wood line. We have heard it stated, though surely it must have been ironically, that the Underground big-wigs will have it that the Swisstonians would object to being carried straight into the City without a break; that, as things are now, they stop at Baker-street, have the pleasure of running along the platform, up a couple of flights of steps, across the next line, and down stairs again to get into the next train; whereas if their own train ran right through, such a source of pleasure as that which we have named would be entirely knocked on the head. This the Swisstonians broadly and emphatically deny. They say that the big line is a big bully, and, like all bullies, will not let its little brother have a chance to get on in the world. In the meantime the public, about whose convenience Boards of Directors are all so anxious, when wanting anything from Parliament, are made to suffer at Baker-street. If any higher power in the realm take the management of railways into its hands, let us hope that it will not be long in finding a solution of such "tremendous" difficulties as that of the Baker-street junction.

Of the future of this wee little line we cannot speak with confidence; but, as to what will conduce to its prosperity and further public convenience, we are very certain. A scheme was deposited this session to carry it about a mile in a westerly direction, namely, from the Swiss-cottage Station over to Kilburn, at the end of Willesden-lane. This, with an addendum, is the very best thing that could happen to it; that addendum is a through route, without break, to Moorgate-street. Public convenience demands this concession, and public convenience will not remain long without it, because it will pay well. There is very little doubt but that a Hampstead branch, and a Kilburn one, with either a free right of way direct to Moorgate-street, or a Charing-cross extension, would give the convenient little line plenty to do and a most profitable return. Failing the realisation of either of the projects mentioned, the next best thing for the residents in that suburb will be an amalgamation with the Midland in the Finchley-road. This arrangement would open up the way to the Midland ultra-Metropolitan system; and, as the latter is a powerful company, and has running powers on the Underground already, the difficulty would be solved at once. The City and St. John's Wood line could take all the Midland's suburban traffic off its hands beyond Kentish-town, and run right down to Moorgate-street.

The strip of country between the Finchley-road and Kilburn is very pleasant, as well as very healthy. The contour is of an undulating character, well wooded, and the atmosphere remarkably clear. The landscape, fieldwards, is studded with the residences of the wealthy, and hundreds of the semi-detached villa community are daily taking root in the soil. Whilst they are very much pleased with the means of transit that exist, the great desire is for freer railway locomotion. We visited it on two consecutive Sunday afternoons, and notwithstanding, as the song says, that

"The wind from the northward blew keenly,"

the roads were alive with groups of people, who had come up by the Swisstonian line to take in their weekly stock of crisp, invigorating fresh air. At the junction of the Finchley-road and West End-lane, at the top of the hill from the Cock and Hoop Tavern, a very large mansion is in the hands of the finishers. There are no pretensions to architecture shown in this building, but it appears to be substantially built, has large bay windows, and seems very commodious. Beyond that, further up the Finchley-road, on the confines of Hampstead Heath, other structures may be seen in various stages of progress. Around, we saw the well-known signboards, white upon black, indicating building land to be let.

Looking across the valley in the direction of Kilburn, stakes in lines are driven into the earth, marking the outline of future "roads," "avenues," "terraces," and so on.

Pursuing our way homewards down West-end-lane, we find that they have not begun to move much there as yet; but, after crossing the two railway bridges, to the east of which the Midland Railway passes under the Hampstead and City Junction Line, we come upon the outpost works of advancing London. To the east and west two new roads are being made. The eastern one will terminate in the Finchley-road, and the western one in the Edgware-road. When they are finished, they will, wonderful to say, form the completing links in the great chain of surburban road communication, that will tie together the whole of the wide-spread northern side of London, from Hackney, in the east, to Kilburn, in the far west. The eastern half of the new thoroughfare has not been as yet christened; it was our old friend Gipsy-lane; but the western one has been called "Nicoll-road." From what can be judged of it at present, it will be nearly half a mile long. The broad, black, white-lettered boards are up, and, already, close to the lane, the ground is cleared between this new road and the railway, which runs parallel to it, and the plots for the Londoner's enviable snuggery, the suburban semi-detached villa, can be plainly discerned. At the Kilburn end, several houses are up and inhabited, and others are in process of erection.

"Where will London end?" we said to a respectable-looking man who was surveying the situation, like ourselves, and with a very suspicious brick-and-mortary appearance.

"Goodness knows," was his reply. "Building plots are snapped up as if they were so many gold nuggets. You go to-day, and all but settle; only you think that you'll consider for a day or two. By the time that you have made up your mind some 'early bird' has dropped down at the land agent's and gobbled up the morsels that you had set your heart upon."

Resuming the walk, we came upon a pile of building on the western side of the lane that is always sure to arrest the attention of the wayfarer. It is a long, red brick structure in the Old English Manor-house style. The rear front is towards the lane, and the gabling has a pleasant effect after so much of the commonplace town type that one sees around the metropolis. This is Oaklands Hall, the seat of Mr. Donald Nicoll, one of the magistrates of the county, and well-known in political and mercantile circles. He built the hall about ten years ago, all in the fields, and now the railway station is about to sit down under the shadow of the Oaklands' vine and fig-tree, bricks and mortar are pushing their trenches towards its porch, and on all sides; and the house will be soon surrounded and beleaguered by the restless guerilla villa, detached and semi-detached. The owner, if he would be alone, must betake himself to the distant wilds of some unknown, undiscoverable country; far away from the incursions of the ever-building white man, where the trowel of the bricklayer is never heard, and the Celtic hodman cometh not.

But, here we are at the top of the Abbey-road, the lamp-lighter is running along, and—we are in town again!

POST AND PAN HOUSES.

In the work on "Picturesque Architecture," reviewed in our Number for April 9th, Mr. Richardson adopts the expression "post and pan" in reference to the ordinary timber and plaster construction; an expression still known in some parts of the country, though not now, as far as we know, in general use anywhere. Mr. Richardson's theory as to the meaning of the word "pan" in this connexion appears to us questionable. He takes "pan" as synonymous in Lancashire with "beam," and "post" and "pan" as representing respectively the uprights and cross-pieces of the carpentry. The only fact we can ascertain in favour of this is that in parts of Lancashire and Staffordshire a "purlin" is called a "pan," but it is quite possible that this is a corruption by contraction; and the statement that "pan" is habitually used for "beam" in Lancashire, and that the latter word is unknown in that county, is an error. It is only right to say that Mr. Richardson gives various other theories as to the word. We have little doubt that "pan" refers to interspaces between the carpentry, and that it is identical with the old French word "*pan*," given in the best French dictionary to which we have been able to refer as "*partie considérable d'un robe, d'un manteau,*" and in its secondary meaning as "*parti d'un mer, d'une des faces d'un ouvrage de menuiserie;*" and again "*pan de bois*"—plastered or mud wall, which brings us very near to the mark. It may even be short for "post and panel."

If Mr. Richardson turns to "pane" in the "Glossary of Architecture," he will find we are not alone in our view. It is there given "Pane (Fr. *pan*), an old term formerly used in reference to various parts of buildings, such as the sides of a tower, turret, spire, &c., which were said to be of four, eight, &c., *panes*, according to the number of their sides. It was applied to the

lights of windows, in which sense it is still retained, and also to the spaces between timbers in wooden partitions, &c."

Whoever is aware of the close intermingling of French words and expressions with English some centuries back, in the Chaucerian and pre-Chaucerian period, can have little doubt that the French and English "pan" or "pane" are the same word originally.

"To pan" was a verb at one time current in England, meaning to join or close together; so that an enclosure, when the spaces between the uprights had been filled in with plaster or brick-work, might have been termed "panned." In a somewhat obscure proverb,—"Weal and woman cannot pan, but woe and woman can," the word is taken to mean "join or agree."

We add to the illustrations of the work "Design for a Garden Seat" (No. 31), and a view of a "Triangular Lodge" (No. 10), erected in an ancient park in Kent, both which are mentioned in our notice of the book.*

THE CASTLE OF COBURG, GERMANY.

THE charming little town of Coburg is well known by name to Englishmen from its connexion with the early history of the late Prince Consort, and a visit to this interesting and beautiful place will soon lead one to understand the affection with which it was regarded by the Prince.

The greatest charm of Coburg is its romantic situation. It occupies the centre of a kind of "amphitheatre," surrounded by beautifully wooded hills, one of the most important of which is crowned with the picturesque and interesting castle.

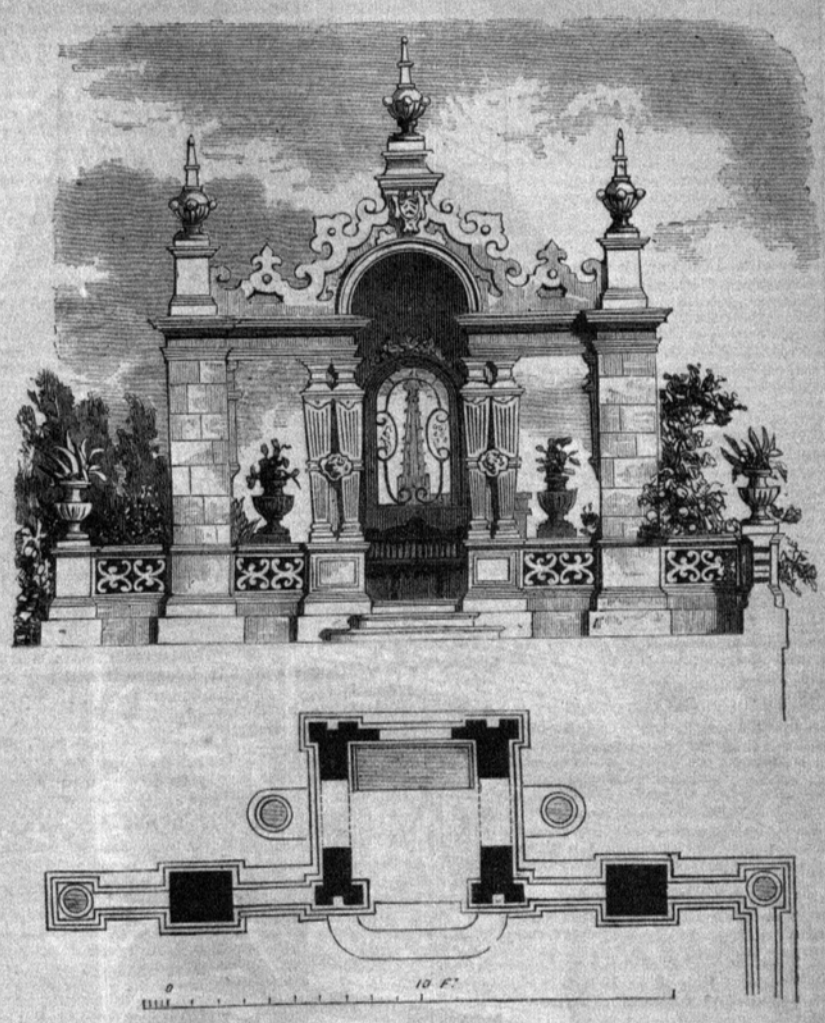
The town itself consists chiefly of two long streets running at right angles to one another, and where they cross is a large market-place. Originally there were two walls surrounding the town, but the gates alone remain. There are four churches, the chief of which, called the Pfarr Church, is a fine building, consisting of a nave and aisles and an apsidal chancel; at the west end are two towers, one crowned with a lofty bulb-shaped spire of slate. There is a fine western porch, over which is a rather singular apse (a most remarkable feature in this position). It is difficult to understand what could have been the original use of this apse. It now contains the organ, but from the fact of its having large windows in each face, it is quite certain that it was intended for other purposes, and was probably used as a chapel.

The Rathhaus is an interesting building, of the latter part of the sixteenth century, with two good oriel windows at the angles. In the centre of the "markt-platz," in front of the Rathhaus, is a fine modern statue of the late Prince Consort, erected at the cost of her Majesty the Queen. Not far from the "markt-platz" is the schloss, or modern palace of the Dukes of Coburg. Some portions of this edifice date from the earlier part of the seventeenth century, but the greater portion is not earlier than the present century. There is a charming park attached to this schloss, extending for several miles along the valley, and enclosing the hill upon which stands the ancient Castle or "Veste" of Coburg. This is an interesting building, in a very perfect condition, consisting of an outer circle of walls or rampart, and two inner courts. A portion of the principal court is represented in our engraving. It is, perhaps, one of the most elaborate and interesting examples of ancient timber construction in existence. It is composed entirely of oak, and all the carving is most elaborately executed, and is in a beautiful state of preservation. The interior of this portion of the castle at Coburg is as remarkable and beautiful as the exterior; but of this we may have to speak on another occasion.

Some time ago we found it our duty to criticise rather severely the new timber buildings being erected in New Zealand, and we condemned strongly the practice of erecting timber structures in imitation of stone ones. The specimen of a timber building which we now give offers our New Zealand friends an example which they will do well to study; for in addition to being quite as dignified and elaborate as they can possibly require, it is thoroughly structural and substantial, and would not cost half as much money or labour as the pretentious shams that our colonial friends are now erecting.

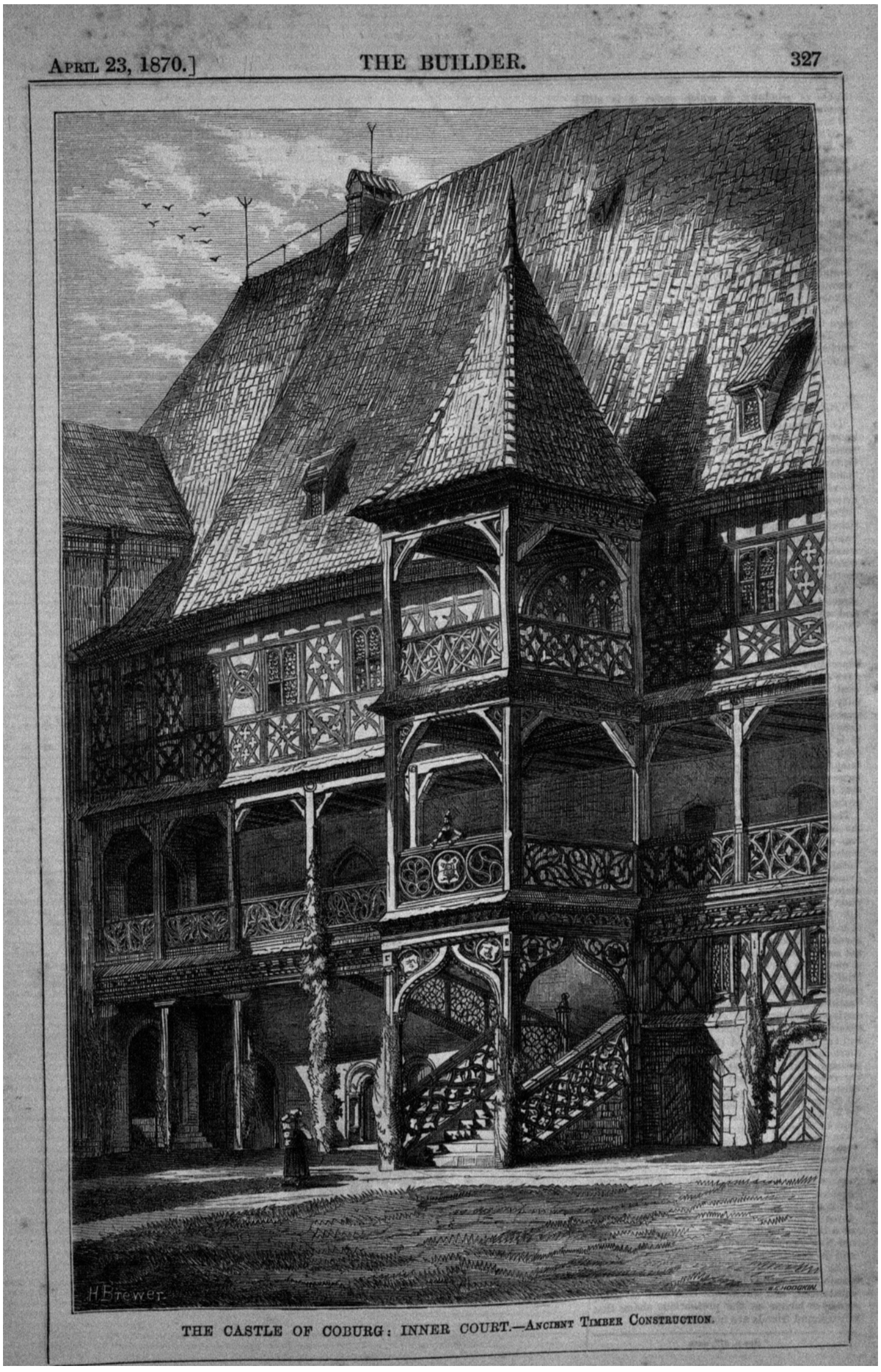
* See p. 277, *ante*.

PICTURESQUE ARCHITECTURE.

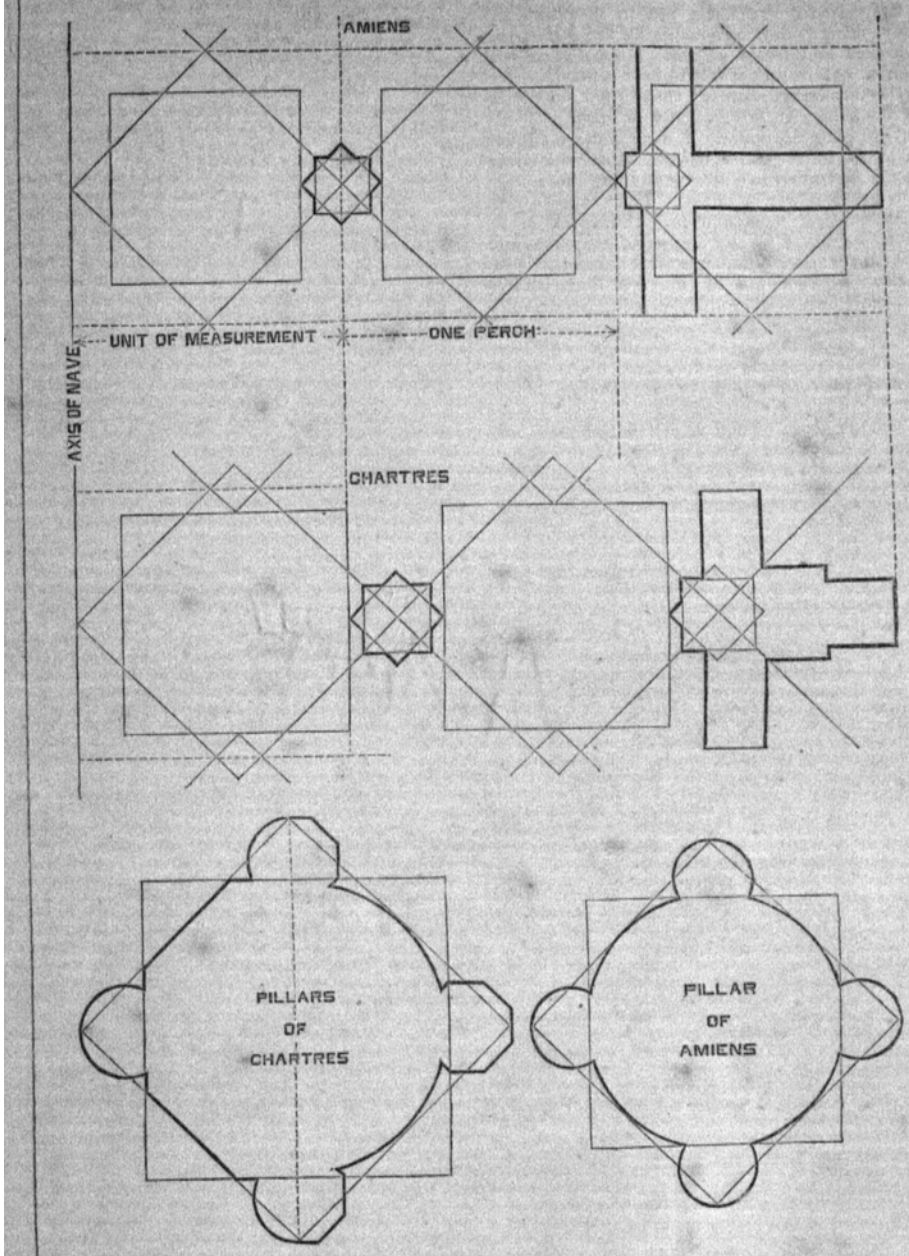


A Garden Seat.—Elevation and Plan.

A Park Lodge, on Triangular Plot of Ground.



THE CASTLE OF COBURG: INNER COURT.—ANCIENT TIMBER CONSTRUCTION.



GEOMETRICAL PROPORTIONS IN ARCHITECTURE.

GEOMETRICAL PROPORTIONS IN ARCHITECTURE.

In December last, a correspondent of the *Builder*, in an article entitled, "Symmetry in reference to sound," suggested that "by using the *square and its diagonal*," we should have a system of proportion, "in which the dimensions bear a geometrical relation to one another." Mr. Cresy, in his "Encyclopædia," has given numerous examples of proportions deduced from the square and the cube, but he appears to have overlooked one use which the architects of the Middle Ages constantly made of the diagonal. He shows that the nave of the great cathedral, at Amiens, is contained within a cube, and that the proportions of all its principal parts are determined by dividing the whole cube into 216 smaller ones ($6 \times 6 \times 6 = 216$), each one of which measures 1 French perch, or 23½ (23·452) English feet. He then assigns 2-7ths of a perch to the diameter of the pillars.

This arbitrary method of determining the dimensions of so important a feature has not the geometrical character prevailing in all Pointed architecture. But if, within each of the 36 squares of the plan, two squares crossing each other diagonally be inscribed, measuring 23·45 ft. on the diagonal, or 16·59 ft. on the side, the difference between the diagonal and the side (6·86 ft.) will be the proper diameter of the pillars, which Mr. Cresy says vary from 6·70 ft. to 7·17 ft. By the same diagram we have for the clear breadth of the nave, 40·04 ft., and of the aisle, 20·02 ft., or very nearly the figures given by Mr. Winkles,—39·75 + 7·17 = 46·92 ft., or 2 units as breadth between centres of pillars.

At Chartres the nave is wider, or 2 units in the clear, and the aisle narrower than at Amiens, but the *proportions* are derived from a similar diagram. The *Builder*, in vol. xvii., 1859, page 706, gives as the breadth of the nave from centres of columns, 16 m. 40 c. The diagonal of the squares is therefore 8 m. 20 c., or 26·90 ft., and the side is 5 m. 80 c., or 19·03 ft., the difference, 2 m. 40 c., or 7·87 ft., being the proper diameter of the pillars. By the diagram the nave, in the clear, will be 14 m., or 45·92 ft., and the aisle 5 m. 80 c., or 19·03 ft. These dimensions correspond exactly with the scale and drawing in the *Builder*, page 712, and with the figures of Mr. Winkles.

It will be observed that at Chartres the breadth of the nave is twice the breadth of the aisle, measuring from centres of pillars; while at Amiens, the same relation exists, if the measurements be taken in the clear.

At Chartres, the perch or unit of measurement seems to have been about 22·96 ft. long, or somewhat shorter than the one used at Amiens; but in Angers Cathedral we find both dimensions and proportions too similar to those of Chartres to have been accidental. M. Felix de Verneille ("L'Architecture Byzantine en France," p. 283) says, "*Elle (la nef) a 16 m. 40 c. entre les murs opposés; 14 m. et plus de colonne à colonne.*" And it is a similar diagram which, at Amiens and at Chartres, determines the plan of the pillars and the proportions of the shafts. The central cylinder is inscribed within a square, the diagonal of which is equal to the whole diameter of the pillar, while the diameter of the subordinate shafts is the difference between the side of the square and its diagonal.

Other examples of the use of these crossed squares might be pointed out, as well as their application to sections, but it would require many drawings to go fully into the subject. The figure was in general use during the Middle Ages, and will, I believe, be found to be the key to most, if not all, of the plans of the great ecclesiastical structures of the thirteenth and fourteenth centuries, although some have been misled, by an accidental coincidence of measures, to suppose the equilateral triangle to have been used as a guide to harmonious proportions. Hiram and Solomon, Ezekiel and Pythagoras, Ictinus and Vitruvius, all knew the use of the square and the cube, and the architects of the Middle Ages did not disdain to follow in their footsteps.*

W. RUSSELL WEST.

Philadelphia.

"RECENT TRAVELS IN ASIA MINOR."

In the very interesting review of Dr. Van Lennep's travels, in your issue of the 16th inst., remarking on the "Temple of Augustus" at Angora, you state that you "do not agree with Dr. Van Lennep in the supposition that the yellow tint observable on the marble there and at the Parthenon arises from the fact that the surface has been gilt; but you are of opinion that it has been toned down by a coating of yellow encaustic. . ."

Allow me to suggest another reason for the appearance he mentions.

I think it will be found on examination that the stone in these ruins called marble (carbonate of lime) is really alabaster or gypsum (sulphate of lime) of which rock there are to my knowledge several ancient quarries in Asia Minor, and that the yellow coating is the effect of atmospheric influences during a very long period.

The ancient alabaster quarries are all coated in like manner, and the stone would not be recognised as crystalline in structure from its outward appearance.

With regard to the half-finished bust carved in the face of Mount Sipylus, it surely could not have represented any other than Niobe, since the time when the mountain was first called by the name of one of her sons. The figure does not exactly overlook the town of Magnesia, but is very appropriately located above the hot springs at Khasserjie Caivée, about three miles to the east of that town. Thus the "marble" sheds tears,—and hot tears,—even now. There are two copious hot springs from this part of Sipylus.

Your quotation from Pausanias would, I think, imply that, if the bust were then carved, he never saw it; for at present it is barely perceptible from the foot of the rock. But he retired to a distance where he could observe the whole "contour" of the mountain, and therein recognised, or thought he recognised, "a woman weeping and sad." May it not be possible that some one, more matter of fact than Pausanias, knowing the legend, but not recognising the "sad woman," caused this half-finished statue to be commenced in the rock above Niobe's tears (the hot springs), and left it uncompleted in consequence of the inappropriate nature of the stone selected. With regard to the "masses of rock which fall from the cliff," the long preservation of the statue, as well as of the entrances to several excavated chambers at the base of the mountain, which is principally composed of a very hard rock, show the disintegration to have been unusually little.

The construction of railways in this part of Asia Minor will no doubt cause the discovery of many important antiquities; and in a short time when the Cassaba Railway is extended to Sardis, I hope to be able to furnish

* In pursuing this often-revived subject reference may be usefully made to the works of Mr. W. P. Griffith, F.S.A.—ED.

you with some very interesting information with regard to the lakes and other ancient public works which have evidently been once extant in the precincts of the ancient capital of Lydia.

CHARLES E. AUSTIN,
Consulting Engineer of the Smyrna and Cassaba Railway.

SOUND AN ALARM!!!

JEWELLER tradesmen are in great pertubation for the safety of their valuable stock: the usual precautions of "*iron-clad*" shops are now surmounted by our "engineering burglars." Permit me, Mr. Editor, to "*spring a mine*," or rather let them do it when they attempt to breach a castle (*i.e.*, crack a crib).

Let an upright board be placed next to the window; the slightest touch of any boring instrument would cause it to fall, to ignite a taper, turn on and light gas-jets, fire a pistol, and ring bells in bedrooms,—simple, self-acting, and efficacious. It is a game of chess; they are after the "*pawns*," so it is our duty to check-mate them. R. T.

SCHEDULE OF CHARGES ADOPTED BY THE AMERICAN INSTITUTE OF ARCHITECTS.

THE following schedule has been issued by the American Institute of Architects:—

For full Professional Services (including Superintendence),

5 per cent. upon the cost of the work.

Partial Service as follows:—

For Preliminary Studies ..... 1 per cent.
For Preliminary Studies, General Drawings, and Specifications ... 2½ per cent.
For Preliminary Studies, General Drawings, Details, and Specifications ..... 3½ per cent.

For Stores, 3 per cent. upon the cost, divided in the above ratio.

For works that cost less than 5,000 dols., or for monumental and decorative work, and designs for furniture—a special rate in excess of the above.

For alterations and additions—an additional charge to be made for surveys and measurements.

Necessary travelling expenses to be paid by the client.

The architect's payments are successively due as his work is completed, in the order of the above classifications.

Until an actual estimate is received, the charges are based upon the proposed cost of the works, and the payments are received as instalments of the entire fee, which is based upon the actual cost.

Drawings, as instruments of service, are the property of the architect.

RICHARD UPJOHN, *President.*
P. B. WIGHT, *Secretary.*

THE NEW BUILDINGS BILL.

SIR,—This Act, in licensing wooden erections is taking a very dangerous step, in a wrong direction.

Practically, no Act could ever work that recognised such erections: it would open the door to numberless evasions and misconceptions. These could be indefinitely added to or altered; small shops built, to which stoves would be added long after completion of work, would soon create dangerous structures.

There is no *viâ mediâ*: either wooden buildings are right or wrong. A SURVEYOR.

NEWTON MARKET COMPETITION.

SIR,—Whatever Mr. Chudleigh may write in defence of the local Board's decision in this matter, it is notorious about here that a scandalous piece of jobbery has been perpetrated, as the inclosed cutting from the *Western Morning News* will go far to show. Mr. Rowell, one of the members of the Board, and a professional architect, deemed it his duty to protest against the decision, as an insult to his profession, as well as a disgrace to the Board.

Of the plans themselves, the least said the better, both as regards their practical and æsthetic treatment; the Board have been obliged to so cut them to pieces that a new design is necessary; and when they have obtained it, in accordance with the latest instructions, I very much doubt whether they will have the area for market purposes which was stipulated in their original published requirements and instructions to competing architects. You would have been much amused, sir, had you seen the plans, and heard the various criticisms thereon. The local Board has become a laughing-stock, and a striking instance of what men in a corporate capacity can stoop to.

Z.

KEEL AND RUDDER.

SIR,—Naval architects are in conclave endeavouring to devise remedies for the increasing disasters and losses at sea. I hope good will result. Allow an old salt to bear a hand.

Casualties occur through the ship not answering to the helm; an adverse current often prevents its gripping the water. I have made a rudder with an india-rubber centre, and whichever way it is turned it will cap and bag the water; thus great power is gained. I have shown it to a few nautical men, and they think well of it. It can be made of any degree of strength, and will never decay under water. I have also devised a keel fan or fin (of imperishable material) to prevent rolling or going over on her beam-ends. This fan can be drawn down in an instant by a turn of the winch; it will stow itself away alongside the keel when not required. It may prevent top-heavy craft being blown over.*

Perhaps some of our naval philosophers will adopt these twins. They are my offspring, but I am unable to do for them. R. T.

BELL LEGENDS.

SIR,—A short time ago I examined the bells in the spire-steeple at Ketton, near Stamford. The legends upon them may interest readers of the *Builder* who are collectors of such inscriptions, and who do not possess these specimens. They are as follow:—

ꝛ ... ꝛ ...
MERCIFVL ... MARY
... I ... SING ... 1598

SERVE : THE . LORD :
1601.

BE IT KNOWN TO ALL THAT DOTH ME SEE THAT NEWCOMBE OF LEICESTER MADE ME. 1600.
(Big bell.)

I SWEETLY TOLLING DO CALL TO TAKE ON MEAT THAT FEED THE SOULE. 1609.

MOSES : SISSON : C : H : W : HENRY : PENN : FUSORE : 1713.

T : WOTTON : W : ROWLETT : NICHOLAS : BULLINGHAM :
AB : ME : SUIS : SUMPTIBUS : HIC : COLLOCARI : CURAVIT : 1640.

(Treble.) W. 1748.

F. R. WILSON.

WOODEN PULPITS.

SIR,—Can any of your readers tell me where I can see a really good wooden pulpit, such as would be fit for the nave of a large cathedral? INQUIRER.

ACCIDENTS.

A GREAT fire has taken place near Drury-lane in a range of premises belonging to Messrs. Flavell, timber benders, No. 16, Parker-street. The premises in question were exceedingly old, and were fitted up with machinery of great value. The conflagration could not be subdued until the factory was nearly destroyed. The whole of the workmen have lost their tools, and they were uninsured. The origin of the fire is unknown.

A heavy thunderstorm recently passed over Halifax and neighbourhood, its effects being particularly felt at Ovenden, where the residence of a cotton-spinner was struck. The lightning went down one of the chimneys, and, with two exceptions, entered every room in the building, smashing all the windows and destroying the principal staircase. The lightning passed through the back kitchen window, which was instantly demolished, and entered the yard, where it tore up the flags, after which it entered the wash kitchen, destroyed the pump, and tore up the flags. Considerable damage was done to the house internally. Fortunately no one was at all injured. There was an immense fall of hailstones.

Trentham Hall, the Staffordshire seat of the Duke of Sutherland, has had a narrow escape from destruction by fire. The fire was discovered in a closet. The stairs were so full of smoke that the hose could not be carried into the house, and an opening was made, through which a strong stream of water was poured. After an hour and a half the conflagration was entirely extinguished, the closet being destroyed, and the adjoining apartments more or less injured. Besides three powerful engines kept in the building, pipes and plugs run all through the house ready for immediate use. These appliances probably saved the hall.

A correspondent of the *Standard*, writing from Vienna on the 6th inst., says:—"A dreadful accident took place here this morning. The immense scaffolding in front of a new house in the Maximilian-street suddenly gave way, and buried beneath its dismembered parts and a fearful mass of heavy stones about twenty men and women. It appears that the upper wall was not thick enough to support the stones laid upon the juttings, on which the roof in part rests. That part of the masonry work was completed in the depth of winter, and it is supposed that the half-frozen mortar then used gave way under the influence of the sun's rays. Be this as it may, a heavy responsibility attaches to the architect and to the builder. Five women labourers and three men are dead; the remainder were conveyed to the nearest hospital, most dangerously mutilated and wounded. The lives of but few can be saved."

* As an illustration or example, float two corks, with a sixpence partly inserted in one of them, then agitate the water, and observe which rides over the "mountain waves" steadiest.

SCHOOLS OF ART.

Hanley.—The annual meeting of the supporters of this school has been held at the Mechanics' Institution, Hanley, under the presidency of Mr. Alderman Wedgwood, chairman of the committee. There was as usual an exhibition of the works of the advanced pupils, many of which displayed ability, but it was considered doubtful whether on the whole the exhibition was equal to those of some former years. At the last annual meeting Mr. Bodley offered a prize for the best decorated plate in enamel colours, and this produced three or four tolerably successful efforts; but the competition did not excite the interest which had been anticipated. The attendance was fair, but not large. The annual report said:—"Your committee have pleasure in according their satisfaction with the progress made by the students under the able teaching of the master, Mr. Carter, and would at the same time express their regret that they are about to lose his valuable services." Mr. Carter's report stated that the several classes had continued to progress steadily and efficiently, and that he felt the greatest confidence in directing the attention of the friends of the school to the high quality of the work in the advanced section of painting and modelling as a sufficient proof of the present healthy condition of the institution. The total number of students for the year had been 158, showing a decrease of 17 upon the previous year. As this loss had been felt chiefly in the elementary section, he trusted it would be looked upon as but a temporary falling off in the numbers. The prizes were distributed by the chairman.

Cork. — There is now exhibiting at Mr. James Hackett's establishment in Patrick-street, Cork, a silver medallion, which, from its intrinsic value and the circumstances under which it has made its way to Cork, is one of the most interesting objects amidst the many which attract the eye in the shop-window. It is a prize which has been awarded to Mr. Jeremiah Mullins, of Maylor-street, coach-painter, and student of the local School of Art, by the Worshipful Company of Coachmakers and Coach Harness-makers of London, for the best drawing and painting executed in competition with the students of Schools of Art engaged in these trades throughout the United Kingdom.

CHURCH-BUILDING NEWS.

Wickham Market.—The church of Wickham Market has been restored. The external restoration has been confined to partly rebuilding the east wall, rebuilding the other defective parts of the walls of the nave and chancel, refacing them, newly pointing the buttresses, and filling the panels with black flint, and where necessary the stonework of the windows and doorways has been restored. A new north aisle has been added, and is lighted by the windows which were formerly in the north wall of the nave, and by a special arrangement at the north end. The roof of the aisle is of deal. The interior of the church, so far as the fittings are concerned, has been completely altered from what it was. The plastered ceiling of the nave, however, still remains. The gallery that blocked up the west window is gone, the old pews are replaced by open benches, and the gallery in the south aisle is gone. In the north chancel aisle, the organ

(which has been repaired by Mr. Green, Ipswich) is placed, and in the chancel are benches and stalls for the choir and reading-desks for the clergy. The roof of the chancel is coloured a deep blue with golden stars at regular intervals, and that of the south aisle is similarly treated. In the tracery of the east window, at its highest point, is the figure of our Lord, carved in stone, and the vicar has obtained a design for filling the window with stained glass, the subject being the Adoration of our Lord by the Angels. The three upper compartments have been filled with stained glass at Mr. Image's expense. The contract work has been carried out by Mr. Henry Luff, of Ipswich. The total cost is about 1,400*l.*, of which sum the subscriptions fall short by some 300*l.* There is a gain of over 160 sittings, the number who can now find accommodation in the church being about 700. Mr. Hakewill was the architect.

Limington (*Somerset*).—The chancel of Limington church has recently been restored, and part of it rebuilt, as it was out of the perpendicular and almost dangerous. It is fifteenth-century work, and contains some portions of the ancient elaborately-carved bench-ends and poppy-heads, and linen-pattern panelling. But the most interesting objects discovered during the progress of the works were some thirteenth-century coffin-lids, exquisitely floriated, and fortunately in a very fair state of preservation. The chancel was blocked up with modern pewing, into which the remains of the ancient seats had been inserted. These incongruities have been swept away, and the old work replaced in properly-arranged chancel seats. The base of the rood-screen still remains, and has, of course, been preserved. The old roof which was dilapidated has been replaced by an arched ribbed and panelled ceiling, with carved pateras at the intersections. It is hoped that before long the rest of the church, which is of earlier date and of great interest, will be restored. Mr. Ferrey was the architect, and Mr. Maurice Davis, of Langfort, the contractor.

Hounsdown (*near Southampton*).—This new church at Hounsdown has been consecrated by the Bishop of Winchester. In plan it consists of a nave (with north porch), chancel, and vestry; at the west end is a bell-turret, formed of oak. The main material of the walls is composed of stock bricks, faced externally with field flints, and rough-stuccoed internally. The quoins and dressings to the exterior of the church are of Corsham Down, and inside, of Coombe Down stone. The nave has an open-timber roof, filled in at the back of the rafters with V-jointed boarding. The chancel roof is polygonal in form, with moulded ribs, and has carved pateras at the intersections. The whole of the internal walls up to the window-cills are lined with Maw's tiles. A new feature in the wall tiling is the introduction by the agents, Messrs. Simpson & Sons, of hand-painted tiles in place of ordinary encaustic, by which they think the apparent repetition of the pavement on the wall is avoided, and a more artistic effect gained. The tiles being painted in enamel colours, are perfectly durable. The east window is filled with painted glass, by Messrs. Clayton & Bell. The church will accommodate about 200 persons, and all the seats are open. The architect was Mr. Ferrey, and the builders were Messrs. Goddard & Son, of Farnham.

Starston (*Norfolk*).—This church is about to be enlarged and restored under the direction of Mr. R. M. Phipson. Such timbers of the nave roof as are decayed will be taken out, and others in oak, precisely similar in size and mouldings, substituted, and the whole re-covered with lead. This roof is figured in Brandon's "Open-timber Roofs." A new north aisle is to be built, with three stone arches and piers opening into the nave, the present decorated windows on the north side of the nave being refixed in the aisle walls. The roof of the aisle will be in pitch pine, with moulded timbers and tracery spandrels, and covered with lead. An unsightly west gallery will be removed, and the benching will be continued in the aisle, in oak, similar to that at present in the nave. A new organ-chamber at the east end of the new aisle will be erected, and have arches opening into both aisle and chancel. The passages are to be paved with tiles, and Gidney's underground stove used for warming. The contract has been taken by Mr. Grimwood, of Weybread, Suffolk, who has restored several churches under Mr. Phipson, in this district, in a satisfactory manner.

Wrington.—Christ Church, Redhill, has been re-opened for divine service. Being situated on a spur of Broadfield Down, overlooking the vale of Wrington, and exposed to the full power of the south and west gales, the walls had become more or less permeated by the rain from those quarters, and the inside very much disfigured; and as the time had arrived when a thorough cleansing of the interior was requisite, it was considered indispensable first to remedy the dampness. This has been effected by removing the plastering from the interior and coating the walls with asphalte, and then replastering thereupon. The walls were considered suitable for the introduction of colour decoration, and a plan, subservient to the architecture of the building, for lining out and decorating them in encaustic painting, has been carried out. An ornamental string course, or impost, runs round the church and chancel at the level of the springing of the windows and chancel arch, and a second string around the chancel at about 5 ft. from the floor. The intermediate space is lined out in blocks, and the space above the upper string in the chancel and east end of the church diapered. The arches and soffits of the windows have been lined out archwise, and the chancel arch similarly treated. The leading colour is Venetian red upon the stucco ground, with green and gold colour upon a white ground for the ornamental portions, the whole of which are outlined with black. The repairs and improvements in the church have been carried out by Mr. Thomas Young, of Bristol, under the direction of Messrs. Foster & Wood, architects.

Selly Hill (*Birmingham*).—The foundation-stone of a new church, which is to be erected at Selly Hill, has been laid by Miss Jaffray, of Park Grove, Edgbaston. The site chosen for the edifice is on the brow of a hill at the top of the Eastern-road, and about midway between the Bristol-road and the Pershore-road. The cost of the church will be a little under 3,000*l.* The builder is Mr. Charles Jones, of Birmingham.

Overton (*Flintshire*).—The chancel of the parish church is being recast, and an endeavour is being made to render it more in harmony with the older portions, particularly the north transept, which is contiguous to it. The style of the new work will be that of the fifteenth century, and it will consist of new east, north, and south windows, new roof, chancel arch, paving, and seating, the whole of which, it is hoped, will be completed in about six weeks or two months. A house, which has been for some time rented by the late curate, has now been purchased for a rectory. The building only needed some minor repairs and alterations, with painting, &c.; but the offices required entire reconstruction and rebuilding, and some additional sitting-rooms and bedrooms were required. The additional rooms have been joined to the old house. The offices and stabling are also built in continuation. The works here and at the church are being executed by Mr. John Edge, of Overton, from the designs and under the superintendence of Mr. Wm. Milford Teulon, of London.

Leigh.—The architects of the proposed new parish church, Messrs. Paley & Austin, of Lancaster, have forwarded to the chairman of the committee a plan and a prospective view of the exterior, as they propose to rebuild it. As stated in the architects' report, it is not intended to remove the tower, but to restore it as it stands. The whole of the church will, however, be entirely rebuilt. The site of the church, as shown on the drawing, is nearly that of the existing building. The plan presents a long unbroken nave and chancel 125 ft. in length, of which the chancel takes 40 ft., and 54 ft. 6 in. in width, including north and south aisles, the arcading springing from octagonal piers. If a chancel arch is intended, it is apparently proposed that it should die away into the piers on either side, and not divide the building, but preserve as far as possible the unbroken line from east to west, which forms the keynote of the design. The chancel is raised two steps above the nave, the choir being accommodated on either side. The only difference apparently between the nave and the chancel will be a greater richness of detail in the latter part of the church. The seats are arranged with passages down the centre of the nave, and one also in each aisle. The tower arch is thrown open. A porch is provided at the west end of the south aisle, and entrance also apparently through the tower. Separate entrance is also given into the children's aisle by a doorway united with one of the exterior buttresses, and a priest's door is shown to the vestry on the north side. The style is that of the present church. The church is raised some 2 ft. or 3 ft. above the present level, which will obviate interfering more than is absolutely necessary with the remains of those interred within the church. The subscription-list requires to be largely increased. The Grammar School accommodation is sadly deficient, and the erection of a more suitable building would be a great advantage to the town.

Stainland.—A boon is about to be conferred on the district of Holywell-green, in the shape of a cemetery and its chapel, to be formed at the expense of Messrs. J. Shaw & Sons, from designs by Messrs. Horsfall, Wardle, & Patchett, of Halifax. The site, which embraces an area of about 4,000 square yards, is in rear of the present schools, and is triangular in shape. A little cemetery chapel, Gothic in design, is placed in the grounds, and the number of graves will be 746, so that the ground will suffice for one hundred years to come, and ground will be left for future enlargement. A site is also left, close to the schools, for an intended new Congregational chapel, to be built at a future day.

Burford (*Oxfordshire*).—It has been unanimously resolved at a meeting of parishioners, that it is desirable that the church of Burford be restored, under the direction of Mr. G. E. Street, who has prepared plans and specifications. A committee was appointed at the meeting. The sum required is between 4,000*l.* and 5,000*l.*

Bridlington Quay.—The corner stone of a new church at Bridlington Quay has been laid by the Rev. Y. G. L. Greame, of Sewerby House, who gave towards its erection 1,100*l.*, and his sister, Miss Lloyd, of Stockton Hall, 600*l.*, the remainder to be raised by private and public subscriptions. Mr. Richard G. Smith, of Hull, is the architect, and Mr. J. Rennard, of Bridlington Quay, the builder. The site was given by the owners of the Beaconfield estate. The new church will be composed of a nave, chancel, tower, vestry, and north aisle; the space for the south aisle is left for further extension. The length of nave, is 87 ft., and breadth, 33 ft.; north aisle, 17 ft. 3 in. by 64 ft., and the base of the tower, 24 ft. square; chancel, 36 ft. long, and 30 ft. wide; vestry, 25 ft. long by 18 ft. wide. The building is calculated to hold 500 people. Its cost will probably be about 4,000*l.* The church will be of the Gothic order of the twelfth century.

Bungay.—The restoration of the chancel of St. Mary's Church is now completed. Its chief feature is a stone reredos, executed by Mr. Henry Nursey, of this town. It consists of perpendicular panel work of the fifteenth century, the central compartment (containing the Commandments and sacred monogram) being enriched with polished marble columns and carved capitals. The floor of the chancel has been laid partly with Portland stone, and partly with Minton's encaustic tiles.

Upper Holloway. — On Saturday, the 9th instant, Bishop Ryan, acting for the Bishop of London, consecrated St. Paul's Church, which has been erected in the Kingsdown-road, Upper Holloway. The building consists of a nave 66 ft. long and 24 ft. wide; a chancel, 33 ft. deep, terminated with a three-sided apse; and north and south aisles, each 80 ft. long, 13 ft. wide, and 20 ft. high. The roof over the nave is 55 ft. high, and that over the chancel is at the same level. As there is no chancel-arch, the clearstory windows, which are nearly 20 ft. high, are continued round the chancel. Five arches on each side divide the nave and chancel from the aisles. They are supported on coupled columns of red Peterhead granite. At present sittings are provided for 600 persons in open benches of deal, stained and varnished; and there is unoccupied space for another 100 sittings. The roofs are neither stained nor varnished; that over the nave and chancel is boarded to a cradle form in the centre, supported on groin-shaped pendentives between the clearstory windows. The walls are built of yellow stock bricks, with Bath stone-dressings. The inside walling is relieved by occasional bands and arches of red brick. Externally, the effect chiefly depends on the height (72 ft.) to which the unbroken line of the roof over the nave and chancel rises. An octagonal bell turret, covered with slating nearly 90 ft. from the ground, caps the west gable. The aisles are lighted by dormer windows, filled in with plate tracery. With the exception of moulded eaves, cornices of red brick, no decorative features have been introduced on the outside of the church. The total cost is 5,100*l.*, including gasfittings and heating, by Goldsworthy Gurney's stove. The

work has been carried out by Mr. Thompson, of Camberwell, from the designs and under the superintendence of Messrs. Henry Jarvis & Son, architects.

Llaverfyl.—The first stone of the new church here has been laid. It will consist of nave, with western bell-turret springing from the ground, chancel, vestry, and south porch. The old open-timbered roof will be repaired and placed over the nave. Accommodation will be provided for 200 persons in open seats of pitch pine. The chancel fittings are intended to be of oak. Local stone is being used for the walling, and Shelooke for dressings. The work is being carried out by Mr. W. Morgan, of Llanfair Caereinion, from the designs of Mr. E. Haycock, jun., architect, Shrewsbury.

Islington.—St. Anne's Church, Poole's Park, has been consecrated. The new ecclesiastical district of St. Anne's is taken out of that originally assigned to St. Mark's, Tollington Park. The church, which is situate in the midst of a rapidly rising district, near to Finsbury Park, was erected from designs furnished by Mr. A. D. Gough, architect; and in style and character it is Lombardic. It is built of brick, with Bath and Mansfield stone dressings. The internal divisions comprise nave and north and south aisles, chancel and vestry, organ chamber, and western gallery. The nave is divided from the aisles by Bath stone piers, from which spring arches of black, red, and white bricks. The clearstory windows are similarly ornamented. The roof is open-timbered, stained and varnished, and supported upon fifteen semicircular headed principals, springing from corbel shafts of stone, with carved caps and foliated drop corbels. The chancel arch is of Bath stone and semicircular, supported upon stone shafts, carved capitals, and moulded bandings. The accommodation provided is for 1,037 persons, the seats being chiefly on the ground floor. The church is paved with coloured tiles. The entrances are from Poole's Park and Palmerston-road. Messrs. Dove Brothers, of Islington, were the builders, and the contract price was 5,375*l.*; but this is exclusive of the upper part of the tower and spire, the enclosing boundary, and gates and railing. The total cost, including architect's commission and incidental expenses, is put down at 6,270*l.* Two memorial windows, given by the architect and the incumbent, are the work of Mr. Gibbs, of London.

STAINED GLASS.

Elton Church, Oundle. — Two three-light painted and stained glass memorial windows have just been erected in this church. One, at the east end of the south aisle, has, in the centre opening, the Crucifixion; in the dexter opening, the Baptism; and, in the sinister opening, the Resurrection of our Saviour. Each group is under a canopy or shrine, with an inscription at the base, "To the Memory of Granville Leveson Proby, third Earl of Carysfort, Admiral R.N., born in 1783, died November 3rd, 1868, this Window was erected, by his Son and Successor, Granville Leveson, fourth Earl." The window adjoining (south) contains, in the centre opening, the Nativity; in the dexter opening, the Annunciation; and, in the sinister opening, the Angel at the Sepulchre, with the three Marys. These are in medallion shapes, on a mosaic background, with an inscription at the base,—"To the Memory of Isabella, Wife of Granville Leveson, third Earl of Carysfort, died January, 1836, this Window was erected, by her Son, Granville Leveson, fourth Earl." These windows were executed by Messrs. Baillie & Mayer, of London.

East Retford Church.—A new accession has been made to the interior of this church by the erection of a window in three lights, near the south door, by Mr. O'Connor. The prevailing idea of the illustrations in the three lights is to give examples for imitation of the submission of Christ to his earthly parents.

Shillingford St. George, Devon.—A stained glass window has been placed in the south wall of this church, to the memory of the late Mrs. Pitman, of Dunchideock House. The large openings are filled with representations of St. Catherine and St. John, and the tracery openings with appropriate texts. The whole has been executed by Mr. Drake, of Exeter.

Haughley.—Messrs. J. & J. King, of Norwich, have recently executed a memorial window, in commemoration of the charity and kindness manifested to the poor in her lifetime by the late Miss Pretyman, of Haughley-park, Suffolk. The window, which consists of four lights, has for its subject the alms-giving, the death, and the raising of Dorcas. The window was designed by Mr. T. J. Scott.

Hereford Cathedral.—A memorial window, to the memory of Capt. Edward Kempson, brother to Mr. F. R. Kempson, of Hereford, architect, has been inserted in the north window of the east aisle of the north transept of this cathedral. The window is by Messrs. Clayton & Bell, of London. It adjoins that erected to the memory of the late Captain Arkwright, and is a similar three-light window, the subject being, in the centre compartment, the figure of St. Michael, with a medallion beneath, representing two angels, and the badge of the Cameronians (26th Regiment), composed of a star in the centre, and the word "Cameronians" encircling it. On the right is represented St. Alban, and the martyrdom of that saint is the subject of a medallion beneath. In the left compartment is St. George, with a medallion containing a representation of that saint and the legendary dragon beneath it. In the three circular lights in the heading of the window is represented, in the centre, the shield of faith, and in the other two respectively, the "sword of the spirit" and the "helmet of salvation."

St. Olave's, York.—A three-light memorial window, executed by Mr. J. W. Knowles, of York, has been erected on the south side of this church. The subjects are Faith, Hope, and Charity, and are represented under canopies of the Perpendicular period.

St. Lawrence's, York.—A two-light memorial window, painted by Mr. J. W. Knowles, of this city, has been erected in the south side of this church. The subjects are the Crucifixion and the Resurrection, which are represented in panels under canopies of the Perpendicular period.

Great Guddesden Church, near Hemel Hempstead, Bucks.—A stained glass window has been fixed in this church in memory of the late Mrs. Moore Halsey, Lady of the Manor, containing the subject of Dorcas feeding the hungry, and other acts of charity; the death of Dorcas; and St. Peter raising Dorcas to life, under canopies, with angels in pedestals. The work was designed and executed by Messrs. Holland & Son, of Warwick.

Trinity Church, Gosport.—The example set by the erection of memorial windows in the east end of this church is likely to be promptly followed by the erection of another window on the south side, thus completing the design which the two already placed there in part only illustrate. The church being dedicated to the Holy Trinity, the windows will illustrate that mystery. The central window is a representation of the worship offered in heaven to the Eternal Father, and the symbols under which the Holy Scripture has veiled Divine realities in the fourth chapter of the Revelation of St. John have been employed. The object of worship is represented by the human nature which our Lord has taken into the divine,—"A throne is set in heaven, and one sitteth on the throne." The covenant of grace is shadowed forth by the rainbow that overarches the throne, and around the Creator are the four living creatures which are types of life outcoming from Him, their central source, and ever offering their sacrifice of praise. Before the throne are the seven-branched candlestick and the crystal sea, symbols of baptismal washing, and the manifold, yet uniform, energies of the Holy Ghost. Beneath, and in the foreground (so to speak) of the picture, the elders of the old and new covenant offer the worship of the church "to Him that liveth for ever and ever," casting down the crowns before the throne. The north window is devoted to the second person of the Holy Trinity, whose incarnation for the salvation of man is figured by the adoration to the Babe in the grotto of Bethlehem. Above, the hosts of heaven obey the command of the Father, "Let all the angels of God worship Him." The windows are from the firm of Messrs. Holland & Son, of Warwick, and have been placed in position by Mr. Jesty, of Gosport.

Chichester Cathedral.—Of late several workmen from the establishment of Messrs. O'Connor, of London, have been engaged in the erection of a new stained glass window in the south nave aisle of this cathedral, between what may be termed the Pilkington and Roberts memorial windows. The window, which is now completed, is constructed as a memorial of the late Mrs. Johnson, mother of Mr. E. W. Johnson and Mr. J. J. Johnson, Q.C., Recorder of Chichester. The design is a representation of four events in the life of St. John the Evangelist, the first being his call by the Saviour; the second is John taking the mother of Jesus to his own home; the third is the Beloved Apostle as an aged man teaching his disciples; and the last is the banished disciple in the Island of Patmos when, gazing at the beautiful vision which is made to pass before him, he sees, "The Holy City, New Jerusalem, coming down from God out of Heaven, prepared as a bride adorned for her husband." The whole is surmounted by a medallion of the Evangelist.

Gainsborough Church.—A new stained-glass window has been placed in this church in memory of the late Mr. Robert Capes, by his executors. It is the easternmost window on the south side. The subject is the resurrection of Lazarus. It is intended to harmonise in idea with the opposite window, on the north side, with which it corresponds in pattern and colour of its border and arabesque work. It is from the studio of Mr. C. E. Clutterbuck, and its cost was 75*l.*

Books Received.

The Organist's Quarterly Journal. Novello, Ewer, & Co., Berners-street.

THE *Organist's Quarterly Journal* of original compositions, the sixth number of which, published on the 1st of the month, is before us, is a publication well deserving encouragement on the part of any journal devoted to the interests of art. In England the organ was long considered as an instrument mainly for the display of *extempore* playing; and later it has been given up far too much for the performance of mere "arrangements" of music, not originally written for it, nor suitable to it. The attempt on the part of Dr. Spark, the editor of this *Quarterly Journal*, to provide a series of compositions by modern composers written for the instrument, is in every way deserving of success. The present number includes compositions by Gustave Merkel, and the less known names of Tietz and Kerbusch, and also one from the pen of Mr. F. Archer, the talented English organist, who has made Brighton his head quarters. If these do not present the clearness of form and certainty of intention of the older German organ-composers, they have merits of their own, which are peculiar to modern music.

VARIORUM.

THE current *Quarterly* examines appreciatively the position of Eastlake and the claims of English art. The writer takes high ground, and sees in Hogarth, Reynolds, and Gainsborough the "heroic ancestors" of modern art:—

"What does painting owe to these men, and to their countrymen and contemporaries! It owes the power to deal with the tragic and the comic sides of human life; to hold up the mirror to ourselves, teaching and moving us while it pleases. It owes the perception of the magic of landscape. It owes the restoration of the imaginative style of portraiture. It owes the discovery of childhood as one of the purest and most attractive sources of pleasurable representation. It owes the first fusion of the prosaic incidents painted by the Hollanders with the sentiment of modern poetry and romance.* And when we compare these varied sources of delight and emotion with those presented by the first school of painting, wholly restricted to religious teaching; or, with the second, devoted to an artificially revived mythology; or, with the third, tentatively wavering between worn-out traditions and half-understood new impulses, we may fairly say that that art which was inaugurated by the English masters of the last century was a new thing in Europe. It bears the name of painting, yet it is almost wholly different from what bore the name three hundred years before; it appeals to other sympathies, it pursues other objects, it must be tried, in a great measure, by other standards."

An elaborate article on "Non-Historic Times" will also interest many of our readers. The writer considers that Silbury and Stonehenge belong to post-Roman times, and objects altogether to the term *pre*-historic. —— We may mention, as bearing on the same inquiry, that the *Quarterly Journal of Science* (April) contains a paper on "Megalithic Structures of the Channel Islands: their History and Analogues," by Lieut. S. P. Oliver, of the Royal Artillery. It is illustrated with several views.——The second number of the *Photographic Art Journal* contains illustrations of considerable interest produced by some of the new processes. The "Stirrup Cup,"

* Note also that England is equally the inventor of water-colour painting, with all its vast and varied capacities for humanising and elevating pleasure. But this branch of art would require separate consideration.

after a painting by Verschure, has been photographed and printed in permanent pigments by M. Goupil, of Paris, by Mr. Walter Woodbury's process, and is remarkably beautiful. The second illustration, "Netley Abbey," is printed in printers' ink, at the ordinary printing-press, by a process recently perfected by Messrs. Edwards & Kidd, and assimilated in many respects with the Albert-type process, the prints being taken direct from the gelatine and bichromate matrix. The third is produced by an autotype process; and the fourth is an example of Fruwirth's phototypy, and illustrates the power of reproducing printing surfaces from engravings, drawings, and wood blocks, thus rendering the works of the great art-masters of the past capable of cheap reproduction.——The first article in *Fraser* of this month makes a good fight for the agricultural labourer and his children,—a long-neglected class. —— "Spon's Tables and Memoranda for Engineers, selected and arranged by J. T. Hurst," will lie in the smallest waistcoat-pocket, and will often be found useful at a pinch. A penny at hand is sometimes more useful than a pound left at home.——Hardwicke has published, as usual, his "Shilling House of Commons for 1870," his "Shilling Knightage," "Shilling Baronetage," and "Shilling Peerage." The fact that they are edited by Mr. Edward Walford, M.A., gives assurance that so far as they go they may be depended on.——"The Woman of Business; or, the Lady and the Lawyer, by Marmion Savage" (Chapman & Hall), is a very good novel. The story is interesting, and the interest is well maintained throughout the three volumes in which it is told.

SALES OF HOUSE PROPERTY.

April 13.—By Mr. W. H. Moore.—Leasehold residence, No. 18, Abbey-gardens, St. John's Wood; annual value, 50*l.*; term, 69½ years unexpired, at 8*l.* per annum—sold for 550*l.*

Leasehold house, No. 6, Robert-street, Euston-road; annual value, 88*l.*; term, 97 years from 1824, at 9*l.* 1s. per annum—sold for 905*l.*

Leasehold, No. 15, Granby-street, Hampstead-road; let on lease at 15*l.* per annum; term, 96 years from 1842, at 5*s.* per annum—sold for 300*l.*

By Mr. Salter.—Leasehold, No. 25, Drury-lane; let at 84*l.* per annum; term, 61 years from 1828, at 27*l.* per annum—sold for 475*l.*

By Messrs. Rogers & Chapman.—Leasehold, Nos. 3 and 4, Upper Dorset-street, Pimlico, producing 94*l.* per annum; term, 77¼ years from 1848, at 12*l.* per annum—sold for 1,180*l.*

Leasehold, Nos. 61 and 63, Bessborough-street, Pimlico, producing 125*l.* per annum; term, 83 years from 1860, at 22*l.* per annum—sold for 1,330*l.*

Leasehold, No. 48, Lupus-street, Pimlico; annual value, 75*l.*; term, 70 years from 1863, at 11*l.* per annum—sold for 810*l.*

Leasehold, Nos. 11, 12, 14, 15, and 16, Vincent-square, let at 60*l.* per annum each; term, 60 years from 1864, at 8*l.* per annum each—sold for 2,605*l.*

Leasehold, Nos. 70 and 72, Lupus-street, Pimlico, producing 130*l.* per annum; term, 79 years from 1853, at 16*l.* 10*s.* per annum—sold for 1,430*l.*

Leasehold, No. 82, Charlwood-street, Pimlico, let at 80*l.* per annum; term, 79¼ years from 1852, at 10*l.* per annum—sold for 930*l.*

April 14.—By Mr. H. J. Phillips.—Freehold residence, No. 3, Devonshire-street, Islington; annual value, 55*l.*—sold for 670*l.*

Miscellanea.

The Hardships of Brickyard Children.—A correspondent of the *British Workman* says: Some of the boys employed are about eight years old, and each one is engaged carrying from 40 lb. to 45 lb. weight of clay on his head to the maker, for thirteen hours per day, traversing a distance of fourteen miles. The girls employed are between nine and ten years of age. They are partly occupied, instead, in taking bricks to the kiln. Some of the children are in a semi-nude state. Many of them in Derbyshire work what is called "eight-hour shifts," which, reckoning from twelve o'clock on Sunday night to twelve o'clock on the Saturday night following, make a weekly labour of seventy-two hours. To ascertain really what work these children have to do, we must suppose a brickmaker (not over quick in his operations) making 3,500 bricks per day. The distance the boy or girl has to travel with mould, which weighs 4½ lb., and bricks in it 10½ lb., one way, and back to the brickmaker with mould only, is upon the average twelve yards. This multiplied by 3,500 makes the distance nearly twenty-four miles that each child has to walk every day, carrying this weight with it. Mr. Mundella stated in the House of Commons that "ignorance, vice, and immorality prevail to a greater extent amongst the *employés* in brick-yards than in any other trades." We are fully of the same opinion.

Railway Matters.—A new method of warming first-class carriages in express trains has been adopted in Bavaria. A special van is attached to the train, and contains a powerful "calorifere," and the heated air is conveyed to all the carriages of the train by means of india-rubber tubes. The experiment with first-class carriages is reported upon so favourably that the authorities have determined to apply it to all the carriages on the Bavarian lines, and it is expected that it will soon be adopted on all the German railways.——The singular names possessed by stations on many of the Illinois roads have often been noticed, such as Plana, Loda, Pana, Polo, &c. A Western paper now explains that when the stations on the Illinois Central Railroad were fixed upon, it was deemed advisable, so far as possible, to give them Indian names, but so numerous were they that this would exhaust an ordinary Indian vocabulary. Accordingly, to obviate this difficulty, a quantity of vowels and consonants were written on slips of paper, and placed in a hat. These were all stirred up, and a few drawn out at random, when a clerk was required to exercise his ingenuity in forming them into a word.

Discovery of an Underground Dwelling in Ireland.—A curious discovery has been made on the farm of Kilourt, about two miles from Malin Head. While two men were raising a stone they found a large opening underneath. To the south of the opening there seems to have been a refuse-room, which is about 10 ft. in length, and filled with limpet shells, beef bones, and ashes. North-west from the entrance is an apartment 12 ft. long by 9 ft. wide, and 5 ft. high; at the end of which is a small round hole cut in the rock, just large enough to creep through, which leads by a passage 50 ft. long, by 3 ft. wide, into a fourth apartment, running with a kind of curve, and 20 ft. by 6 ft. Passing through this, the fifth division seems to have been a kind of water-room, with a clear spring in one end of it. The room is 12 ft. long, 9 ft. wide, and 6 ft. high. To the left is a kind of cellar by 3 ft. of a drop, the entrance of which is very small; but the cellar is 45 ft. long and 5 ft. wide, at the end of which is another entrance, built up with a shore stone.

New Church at Barton-le-Street.—Mr. Meynell Ingram, the chief land-owner in Barton-le-Street, near Malton, has had the old church demolished and a new one commenced in its place at his cost. The new church will be from designs by Mr. Perkin, architect, Leeds. The whole of the sculptures in the old church are being rebuilt in the new walls. The builder is Mr. Barton, of Slingsby. The late structure was of great antiquarian interest, in consequence of the number of sculptured stones walled into it. In this respect it was very rich in Early Norman work. The church was evidently built from the ruins of some other, and antiquaries have never settled the point as to whether St. Mary's Abbey, at York, or the Church of the Holy Trinity, at York, was used as the quarry. A third party hold that neither of these churches, but a still earlier Norman building, furnished the materials.

Public Spirit in Hindus.—The visit of the Duke of Edinburgh to Western India will be commemorated by many munificent public gifts from the native princes and chiefs. The Guicowar of Baroda has given 20,000*l.* for the erection of a sailors' home at Bombay; the Rao of Kutch 15,000*l.* for the erection and endowment of schools throughout his dominions; the Hon. A. D. Sassoon 10,000*l.* for the erection of a new High School in Bombay, and 2,500*l.* to purchase an organ for the Bombay Town-hall; the Chief of Jumkhundee, 10,000*l.* to secure a water supply for his capital; the Ranee of Jumkhundee, 1,000*l.* to the Alexandra Native Girls' Institution; the Nawab of Joonaghur, 10,000*l.* for public works; the Chief of Bhownuggur the same amount for the same purpose; and many smaller sums have also been given which are to be devoted to public works.

East Meon Church.—The restoration of this church is now near completion. The *Portsmouth Times* says,—"In spite of great difficulties, owing to the high winds rushing through the valley, a handsome spire has been erected. Mr. Smith, contractor, of Lion-terrace, Portsea, has had the entire management of the work."

St. Mary's, Exeter.—It is proposed to erect a tower to St. Mary's Church, Exeter, in memory of the late Bishop of the Diocese.

White Lead.—An improvement in the manufacture of carbonate of lead, by the action of the soluble acid carbonates of the alkalies on litharge, hydrated oxides of lead, or insoluble basic salts of lead, has been patented by Messrs. Dale & Milner, of Warrington. The inventors mix litharge, hydrated oxides of lead, or insoluble basic salts of lead, with an equivalent of bicarbonate of soda, together with sufficient water to form a stiffish paste. This mixture is ground in a suitable mill, small quantities of water being from time to time added as may be found requisite, until the change of the lead bodies into carbonates is complete. The paste is now well washed with water, and the supernatant liquid which contains the carbonate of soda is separated from the white lead by filtration, and boiled down to dryness, and disposed of as soda-ash; or it may be crystallised, or may be again converted into bicarbonate of soda by treatment with carbonic acid, and used to convert further quantities of lead oxides or insoluble basic salts of lead into carbonates.

Unsavoury Condition of Penryn.—A startling report has been made to us concerning the unsanitary condition of Penryn. We hear that the existing drainage works are utterly insufficient; stagnant pools and decomposing refuse are in the streets; there are no water closets, and everywhere the most utter sanitary neglect; the streams running through the town are open sewers; the slaughter-houses are in confined localities, and undrained; the river is offensive and revolting; disease, destitution, and death have resulted; and the district in Budock parish is, if possible, more filthy than that within the municipal boundary. Certain members of the town council are owners of some of the worse properties.

A "Day's Work."—A novel case occurred in the Glasgow Small Debt Court on Friday, in which the number of hours necessary to constitute "a day's work" was the point in dispute. The employer contended that the workman having commenced the work at mid-day and stopped at six o'clock, he was bound to work the next day till mid-day before he could claim the day's work. The sheriff, however, repelled this plea on the ground that the man having been allowed to commence at mid-day, had worked till the closing hour, and thus completed his day's work.

The East End Museum of Science and Art.—Earl de Grey says, in reply to inquiry as to the proposed museum at Bethnal-green:—"The erection of the buildings connected with the Science and Art Department, including the East-end Museum, has been transferred to the Board of Works, and is therefore no longer under my control. I learn, however, on inquiry, that a sum of 5,000*l.* has been proposed in the estimates for the present financial year for that museum; and I have every reason to believe that it is Mr. Ayrton's intention to proceed with the completion of the work."

Royal Italian Opera, Covent Garden.—In "Lucrezia Borgia," last week, a new *Maffeo Orsini*, in the person of Mdlle. Cari, made a very favourable impression. Her opening song was charming in purity and accent, and the ever-popular *brindisi* raised a considerable enthusiasm. Her appearance in other parts will be looked for with interest. Signor Graziani, as *Duke Alfonso*, was grand. Mdlle. Sessi, who grows rapidly upon her auditors, has played *Maria*, in "La Figlia del Reggimento," with great success. She sang delightfully throughout. Signor Ciampi's *Sulpizio* is also a good performance.

Artists' General Benevolent Institution.—The annual dinner in aid of this society will be held on the 7th of May, under the presidency of the Duke of Argyll. Most of our readers know that the object of this institution, founded in 1814, is to afford relief to distressed meritorious artists (whether subscribers to its funds or not), whose works have been generally known and esteemed by the public, as well as to their widows and orphans. Seventy-nine applicants were relieved during 1869, with 1,255*l.* Mr. J. E. Millais, R.A., is the hon. secretary.

Inquiry as to the Utilisation of Sewage.—The subscriptions to the fund for defraying the expenses of the proposed inquiry by the British Association Committee on Sewage amount to upwards of 12,000*l.*, and the committee has decided that the inquiry shall be commenced at once.

Glazing with Rods.—A New York paper speaks of a new contrivance for preventing people looking into a room, while light is not excluded. It consists of a number of glass rods arranged either vertically or horizontally, and secured together by appropriate frames, forming a series of cylindrical lenses which break up the light, and throw it into every part of the room, thus producing a soft and diffused glow, which is very beautiful and pleasant. The glass rods may be of any colour, and by an arrangement of the colours very beautiful effects can be produced. The contrivance is the invention of Mr. Demuth.

Fall of a Cornice.—According to the *Kensington News*, about two o'clock in the afternoon of Sunday, the 10th inst., the cornice of a line of eight houses belonging to the Kilburn Estate Agent, Mr. H. Allen, and erected by Mr. Richard, fell simultaneously and without previous warning, literally crushing in the cellars below. Bad building is said to have been the cause of the catastrophe. One of the houses was occupied by the Rev. Mr. Cocking, and the reverend gentleman and his family think that the parish would be nothing the worse for a district surveyor.

Building with Paper.—According to the *Scientific Review*, building paper now forms a regular article of commerce in the United States. It is a hard, compact paper, like an ordinary book-cover, and is saturated with tar, and used on the outside of frame buildings, under the clapboards, also under shingles and floors, to keep out damp and cold. It is also used on the inside, not saturated, instead of plastering, and is said to make a warm and cheap wall. The Rock River Paper Company of Chicago are doing a large business in it.

Northumberland Architectural Society. The annual general meeting of the Durham and Northumberland Architectural and Archæological Society was held last week in Bishop Cosin's Library, Durham, under the presidency of the Rev. W. Greenwell. It was decided that the first excursion of the society should be to Tynemouth and Seaton Delaval; the second (two days) to the Roman Wall; the third to Aycliffe, Heighington, and Walworth Castle; the fourth to Boldon and Hylton Castle; and the fifth (two days) to Rivers, Helmsley, and Gilling, in Yorkshire.

Discovery of Roman Remains in Belgium.—The Belgian journals state that some Roman remains have just been discovered in digging the foundations for a bridge over the Meuse, at Omtret. The oaken piles of a similar structure, erected by Julius Cæsar during the conquest of Gaul, were brought to light, in a perfect state of preservation. Between two of the piles were also found a number of Roman coins, being the effigies of the Emperors Trajan, Vespasian, Adrian, Antonino Pius and his consort Faustine.

Filters, and Filtration.—It has recently been shown by Dr. Frankland that filtration does not only remove matter mechanically suspended in the water, but comprises also a chemical alteration of dissolved material. In some experiments ordinary London sewage water was purified to such a degree that, in respect of organic substance, it actually equalled in purity the water supplied to London for domestic purposes. A committee has, therefore, been organised for the systematic examination of water-filters, and to report fully upon them.

The Industrial Classes in Foreign Countries.—Her Majesty's diplomatic and consular agents abroad, to whom we are periodically indebted for a large amount of information as to the trade and manufactures of the countries in which they reside, have transmitted to this country a fund of valuable intelligence. Their reports have just been presented to Parliament in an octavo Blue-book of nearly 600 pages, and have been forwarded in reply to a circular from her Majesty's Secretary of State for Foreign Affairs.

Another Speaking-Machine.—Professor Faber's speaking-machine is to be exhibited at Hamburg during the continuance of the International Horticultural Exhibition. It is said to articulate various words, and even to answer questions and simple sentences, with wonderful distinctness. This is by no means the first invention of the kind that has been exhibited, but it is said to be more perfect than any previous invention of the kind.

Cathedral Improvements at Durham.—The Dean and Chapter of Durham have commenced important contemplated improvements in the cathedral, under the direction of Mr. C. Hodgson Fowler. Nearly a century and a half ago the whole of the structure was at intervals internally "whitened," and this the capitular authorities have, by way of experiment, decided upon removing. To this end, therefore, scaffolding has been erected, and the entrance of the west end of the north aisle has been enclosed and the cleaning begun.

An Ancient Stone Relic.—A curious stone, believed to be Druidical, has just been discovered in a field near Dingle. It is 8 ft. long, 4 ft. broad, and about 2 ft. in thickness. In the middle of it is a hole, 14 in. square, and as many inches deep, which is neatly cut with a chisel, and the lower end of it coming to a point, or tapering from top to bottom. Such stones are believed to have been used in ancient times to consecrate marriages and other contracts by the joining of hands through the hole in the stone.

Ely Cathedral.—It appears, from an examination made by Mr. G. G. Scott, that the south-east transept of this cathedral is in a critical state, and the dean and chapter have accordingly directed this portion of the building to be shored up. The whole of the foundations will be renewed with large stones from the rock foundations, which are several feet below the rail. The works are intrusted to Messrs. Freeman, of Ely, and will be carried out under the direction of their manager, Mr. E. Lofts.

Public Park for Bradford.—There is a prospect of Bradford becoming possessed of another public park. Mr. S. C. Lister has offered his estate at Manningham to the Corporation for public purposes for 60,000*l.*, this being 11,000*l.* less than the sum at which it has been valued. In addition, Mr. Lister has intimated his willingness to subscribe 20,000*l.* towards the purchase money, and he will allow the Corporation to sell some fourteen acres, on which villas may be erected.

Statue of Lord Palmerston.—In execution of an order from her Majesty's Government, Mr. R. Jackson, sculptor, has just completed, for erection in Westminster Abbey, a full-length statue of Lord Palmerston. The figure, which is 8 ft. 1 in. in height, and is to stand upon a pedestal upwards of 6 ft. high, has been hewn out of a block of Carrara marble. The deceased Premier is represented as wearing the robes of a knight of the Order of the Garter, with mantle, collar, "George," and badge complete.

Wide Tenders. — Sir: For Nottingham-road, Wandsworth-common, the following tenders were opened:—

Crocker	£337 15 0
Lane	325 10 0
Porter	295 0 0
Hampton	235 0 0
Rough	220 0 0
Noel & Robson	146 0 0
Neale	137 0 0

the lowest of which was accepted. Where will it end?—CONTRACTOR.

Ripon Fine Art Exhibition.—This exhibition was opened on Tuesday by Earl de Grey and Ripon. The exhibition has been promoted for the benefit of the Ripon Scientific Society and Mechanics' Institution. It consists of specimens of fine arts contributed by the gentry and nobility of the county. It also contains a collection of pre-historic relics from the Yorkshire tumuli, which have never been exhibited before.

Telegraphic Progress.—Some interesting experiments have been made in London, with a view of testing the speed and efficiency of the service established by the Indo-European Telegraph Company. Direct communication was opened with Teheran, in Persia, a distance of 3,700 miles, and answers to questions were received within an incredibly short time.

Royal Horticultural Society.—A show of azaleas, auriculas, cyclamens, and other plants was held on Wednesday in the gardens of the Royal Horticultural Society. The weather was exceedingly fine, and there was a numerous attendance of visitors. The show may be generally described as a good one, embracing some very beautiful specimens.

Royal Society.—The President's *conversazione* will be held this (Saturday) evening, the 23rd inst.

Carbonised Wood.—Mr. Sidot, by carbonising wood in a vapour of sulphide of carbon, obtained a charcoal which, when struck, is as sonorous as a piece of metal. He then got a bell turned in wood, carbonised in the same way, and has now an instrument which gives a sound like that of a silver bell. The carbonisation is only superficial.

Society of Antiquaries.—The Fellows will be recommended by the council, at the anniversary meeting on the 26th inst., to alter the statutes so that the meetings may be held twice a month during the season instead of every Thursday as now. It is hoped that each meeting may thus be made more interesting, and induce the members to attend.

Hall, Dulwich College.—The large windows are filled with *stamped and pressed glass* from the Sekford works, not "Stamford" glass as accidentally misprinted. The clock in the tower has just been completed by the firm of Messrs. B. R. & J. Moore.

Basingstoke.—The church of St. John the Evangelist at Hartley Wintney, near Basingstoke, has been consecrated by the Bishop of Winchester. It is built in the Gothic style of architecture, and will accommodate upwards of 700 persons.

TENDERS.

For alterations and repairs to dwelling-house and premises, High-street, Watford, for Mr. Frederick Dyson. Messrs. Lavender & Son, architects:—

Andrews	£788 10 0
Allen	780 0 0
Harley	769 0 0
Waterman (reduced to 570*l.**)	684 0 0

* Accepted.

For alterations to the Rose and Thistle Tavern, Camberwell. Mr. Murphy, architect:—

Colls & Son	£483 0 0
Sharpington & Cole	453 0 0
Sutton	375 0 0
Shapley & Webster	360 0 0

For alterations and additions to the Heaton Arms Tavern, Peckham Rye. Mr. Cotton, architect:—

Shapley & Webster (accepted)	£600 0 0

For the erection of an infirmary and new east wing to the Merchant Seamen's Orphan Asylum, Snaresbrook. Mr. G. Somers Clarke, architect:—

Myers	£13,970 0 0
Browne & Robinson	13,520 0 0
Mansfield, Price, & Co.	13,361 0 0
Nightingale	13,234 0 0
Kirk & Parry	12,970 0 0
Markwick & Thurgood	12,880 0 0
Conder	12,769 0 0
John Kirk	12,749 0 0
Bayes & Ramage	12,672 0 0
Manley & Rogers	12,557 0 0
Brass	12,295 0 0
Chappell	12,170 0 0
Pattinson	11,990 0 0
Kirby	11,987 0 0
Perry & Co.	11,980 0 0
Hill, Keddell, & Waldram (accepted)	11,764 0 0

For ironwork, main drainage (contract No. 5), for borough of Brighton. Mr. N. C. Lockwood, borough surveyor:—

Morgan & Co.	£850 0 0
Weeks & Son	742 15 0
Waller	738 0 0
Barningham	666 0 0
Spencelayh & Archer	664 3 0
Reed & Co.	647 10 0
Whitemore & Binger	636 17 9
Jukes, Coubron, Stokes, & Co.	605 0 0
Stone & Co.	595 0 0
Harrison & Co.	586 0 0
Lees & Graham (accepted, subject to the approval of sureties)	573 18 0

For villa residence and out-offices, for Mr. W. H. Brookes, at Walsall. Messrs. Nichols & Chamberlain, architects:—

Trow & Sons	£966 0 0
Taylor	917 11 9
Adkins	890 0 0
Wilkes	875 0 0
Moore	850 0 0
Rowley (accepted)	790 0 0

For re-building Nos. 48 and 49, Bishopsgate-street, for Messrs. Barker & Sons. Messrs. Tolley & Dale, architects. Quantities by Mr. Birdseye:—

Sewell	£8,576 0 0
Ashby & Co.	8,450 0 0
Ennor	8,374 0 0
Johnstone	7,745 0 0
Rivett	7,691 0 0
Howard	7,560 0 0
Little	7,437 0 0
Patman	7,385 0 0
Browne & Robinson	7,270 0 0
Newman & Mann	7,156 0 0
Conder	6,980 0 0
Nightingale	6,947 0 0
Manley & Rogers (accepted)	6,437 0 0

For alterations to premises No. 17, All Saint's-road, Westbourne Park, for Mr. J. Cooper :—

Stevens	£175 0 0
Mask	164 0 0
Inglish	153 10 0

For the erection of minister's house, attached to Wesleyan Chapel, Leighton-road, Kentish-town. Mr. J. Willey, architect :—

Niblett & Son (accepted)	£885 0 0

For alterations and additions to the Priory, St. Ives, Hunts, for Mr. Chas. Coote. Mr. Robert Hutchinson, architect :—

Bunting & Son	£1,737 0 0
Meadows	1,729 0 0
Thackeray	1,695 0 0
Saint (accepted)	1,677 0 0

For alterations and repairs at the Three Goats' Heads, Nine Elms, for Mr. Hobbs. Mr. John Ashdown, architect :—

Perkins	£263 0 0
Taylor	250 0 0
Long	242 0 0

For finishing two villas at Finchley, for Mr. Marsden. Messrs. Berriman & Son, architects :—

Lemon	£345 0 0
Rassell	320 0 0
Perkins	273 0 0
Miller	195 0 0
Gibbs	179 0 0
Fisher	170 0 0

For alterations and repairs to eleven houses in Albany-road, Camberwell, for Messrs. Stevenson Bros. Messrs. Berriman & Son, architects :—

Fisher & Sons	£297 0 0
Hill	295 15 0
Perkins	249 0 0
Tarrant	245 0 0
Gibbs & Son	239 0 0

For new malt-kiln and store at Canterbury, for F. Flint, esq. Mr. John Green Hull, architect :—

Cotten	£1,514 0 0
Tollitt	1,444 0 0
Epps	1,442 0 0
Richardson	1,393 0 0
Adcock & Rees	1,359 0 0
Gaskin & Godden (accepted)	1,300 0 0
Shrubsole	1,249 0 0

For the erection of a pair of semi-detached houses on the Coleraine Park Estate, Tottenham. Mr. T. E. Mundy, architect :—

Humphreys & Son	£2,100 0 0
Blease	1,513 0 0
Patman	1,482 0 0
Shires	1,440 0 0
Norman	1,435 0 0
Nightingale	1,387 0 0
Harvey	1,379 0 0
Good	1,335 15 0
George	1,297 0 0
Wicks, Bangs, & Co.	1,288 0 0
Newton	1,285 0 0
Rist & Brown	1,249 0 0
Harrison & Edwards	1,208 0 0
Garratt & Wilkinson	1,197 0 0
Holding & Dickens	1,163 0 0
Pitcher	1,153 0 0
Stone	1,120 0 0
Niblett & Son	1,085 0 0

TO CORRESPONDENTS.

H. S.—H. P. S.—B. W.—M. C.—G. I.—W. & D.—R. F.—W. S.—N. & C.—K. & H.—E. P. P.—R. L. S.—W. P.—H. S. S.—Viator.—Islington.—C. B. A.—H. P. H.—T. P.—B.—F. C.—C, V.—Vestryman.—E. C.—E. K. & Co.—J. C.—A. L. M.—C. C. H.—P. C. L.—M. U.—Messrs. H.—S. H.—C. J. P.—H. J. H.—J. G. (in Weale's Series, published by Virtue).—W. H. G. (next week).—P. R. (next week).—S & J. (no hurry).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of Tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

NOTICE TO SUBSCRIBERS.

The Publisher cannot be responsible for TESTIMONIALS *left at the Office in reply to Advertisements, and strongly recommends that* COPIES ONLY *should be sent.*

Advertisements cannot be received for the current week's issue later than **THREE** o'clock, p.m. *on* THURSDAY.

☞ *NOTICE.—All Communications respecting Advertisements, Subscriptions, &c., should be addressed to "The Publisher of the Builder," No. 1, York-street, Covent Garden. All other Communications should be addressed to the Editor," and* NOT *to the "Publisher."*

FOR SALE BY PUBLIC AUCTION IN THE SALE-ROOM, at F. K. BARNES & SONS' TIMBER YARD, CANONS' MARSH, BRISTOL, on WEDNESDAY, the 27th of APRIL, 1870 at TWO o'clock precisely.

For account of the Shipper.

11,000 Red and Whitewood Deals, Battens, Boards, and Ends
28 Fathoms Lathwood
200 Logs redwood Timber
181 Logs Whitewood ditto, being the entire Cargo per Harmonie, from Ostsand, Gefle District

For account of Importers.

200 Logs fresh Birch
40 Logs selected Waney Board Pine
70 Logs Miramichi Board Pine Timber
10,000 Spruce Deals, Battens, &c.
3,000 Quebec Pine Deals and Planks
3,000 Miramichi Pine Plank
7,000 4-inch Swedish Red Deals
6,000 2-inch Swedish Redwood
3,000 Onega Deals and Battens
6,000 Gefle Redwood Deals and Battens
3,000 Red and White Wood St. Petersburg Deals and Battens
3,000 Swedish Redwood Deals
300 Loads Quebec Yellow and Red Pine Timber
500 Loads Memel and Danzic Red Timber
300 Loads fresh Swedish Redwood Fir
250 Loads fresh Savannah Pitch Pine
30 Logs Sawn Pitch Pine
600 Pitch Pine Deals
30 Crown Waimscot Logs
83,000 Boards Prepared Flooring
150 Fresh Norway Masts
500 Norway Spars
With other Goods.

For Catalogues apply to F. K. BARNES & SONS, Brokers.

Canons' Marsh, Bristol, April 11, 1870.

To Railway Contractors, Engineers, Wagon Builders, Brokers, and Others.

MR. EDWARD HILL has received instructions from Mr. T. B. Hudson, to SELL by AUCTION, on the vacant land at the Railway Station, Shaw, near Oldham, on THURSDAY, MAY 5th, 1870, at THREE o'clock in the afternoon, the following Contractor's Plant : comprising 28 wood tip wagons, 60 first-class tip wagons with wrought iron bodies, 12 spring ballast wagons, with wrought iron wheels and axles, 23 stone and mortar trucks, temporary points and crossings, wrought iron axles, wrought and cast iron wagon wheels, wrought iron tender wheels and axles, two locomotive screw jacks, and other sundries ; also one superior six-wheeled locomotive engine, coupled in four wheels, with tender complete, by Hawthorn, Newcastle.—Catalogues are now ready, which may be had from the Auctioneer, The Orchard, Rochdale.

Unreserved Sale of Building Materials at Paddington, to clear the ground for re-building immediately.

MESSRS. W. H. BETTS & CAUSTON will SELL by PUBLIC AUCTION, on the PREMISES, Nos. 8, 9, 10, and 11, Bolt-street, Edgware road, Paddington, on TUESDAY, APRIL 26th, at ONE o'clock precisely, the whole of the BUILDING MATERIALS of the above houses, pulled down and lotted on the premises, and of the usual description. On view the day previous and morning of sale.—Catalogues to be had of the Auctioneers, 5, Pentonville-road, opposite the Angel, Islington ; and on the Premises as above.

To Builders, Carpenters, Pianoforte-makers, and Others.

MR. LEREW will SELL by AUCTION, at BRITANNIA-STREET, Gray's-inn-road, on MONDAY, APRIL 25th, at TWELVE for ONE o'clock, a Quantity of PLANKS, DEALS, and BATTENS, 400 squares flooring, 6,000 feet quartering, 600 feet oak, 6,500 feet pine, 6,000 feet mahogany, birch, sycamore, and lime tree, cut stuff, 20 doors, ladders, 150 scaffold-poles, 500 puttogs, pony, cart, truck, harness, &c.—Auction Offices, 2, Cardington-street, Hampstead-road, N.W.

In Re W. H. Unwin, Peckham, Surrey.

MR. LEREW is directed by the Trustee TO SELL by AUCTION, on the PREMISES, in the rear of 125, Hill-street, Peckham, on THURSDAY, APRIL 28th, at TWELVE for ONE, the REMAINING STOCK of a Builder.—May be viewed, and Catalogues had on the Premises ; of H. TAYLOR, Esq. Solicitor, 16, Great Saint Helen's, E.C. ; and of the Auctioneer, 2, Cardington-street, Hampstead-road, N.W.

PADDINGTON.—Dissolution of Partnership.—The Valuable Plant of Messrs. A. & H. Curnock, Parish Contractors ; and Important Leasehold Wharfage Property at Kensal-green.

MR. J. S. GOWER will SELL by AUCTION, at 19, NORTH WHARF, Paddington Basin, on WEDNESDAY, MAY 4, at TWELVE o'clock, in consequence of dissolution of partnership and expiration of parish contracts, THIRTY powerful, active, young CART or VAN HORSES, 20 Brick, Water, and Stop Carts and Wagons, Thill and Chain Harness, Two Canal Boats, to carry 35 tons and 40 tons, and numerous other effects.—May be viewed two days prior. Catalogues on the Premises, and of the Auctioneer, Repository, Barbican.

HARROW-ROAD, KENSAL GREEN.—To Lime Merchants, Contractors, Wharfingers, and Others.

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Piccadilly and Pall Mall.

IN the days when Charles II. sauntered and loitered in St. James's Park, feeding the ducks at the decoy; chatting with Storey, at Storey's Gate, about the necessary "wyer," reeds, "polles," and baskets for their island; passing on to the antelopes, Arabian sheep, Guinea goats, and other zoological items newly presented to him, and located in an inclosure there; watching the 300 workmen expeditiously forming the canal at his command; glancing at the orange-trees in boxes, that reminded him of his continental exile; approving the long, smooth, mall strewed with cockle-shells for the game of pall-mall, and sending, too, the ball flying often, as Waller sings, "as from a smoaking culverin 'twere shot;" planting trees; or passing into the palace garden, watering the acorns planted from the Boscobel oak, and shocking Evelyn with light talk with Nell Gwynn over the top of the garden-wall;—two hundred years ago, in fine, Piccadilly and Pall-mall, with the district lying between the Haymarket and Hyde Park, with its surroundings northwards and southwards, were undergoing the process we have seen carried out in our own day in Belgravia, Westbournia, Tyburnia, South Kensington, and Notting-hill, among other places. The broad green pastures north of St. James's Park were laid out in streets; and St. James's Fields, with the hay-scented Hay-hill Farm, were swiftly covered with mansions. Streets and houses spoken of as the westernmost of the new buildings, within a short period were hemmed in with fresh erections. A new court suburb, in fact, arose, which extended as far as Berkeley House, on the road to Hyde Park; the intermediate space between the toll-pike at this spot and a cluster of cottages at Hyde Park-corner being occupied with the "figure-yards" of statuaries.

Lord Clarendon was the first nobleman who built himself a residence in this new district. His example was followed by Lords Burlington and Berkeley, who built to the east and west of him on the same highway leading into Hyde Park. At the same date the Earl of St. Alban's planned St. James's-square. Shortly afterwards, the widow of Lord Berkeley built Berkeley-street and Stratton-street. A church was required for the new district, and accordingly St. James's Church was built, on ground belonging to the Earl of St. Alban's, with its front to Jermyn-street, then a more important place than "ye highway unto Hyde Park" we now call Piccadilly; for the Duchess of Richmond and Colonel Churchill lived in it. Sir Christopher Wren designed this edifice, Gibbons beautified it with his carvings, and Evelyn wrote of it, "There was no altar anywhere in England, nor has there been any abroad, more handsomely adorned." Archbishop Tenison was the first rector; and a large and fashionable congregation immediately filled it. Closer to St. James's Palace the dainty Duchess of Cleveland built Cleveland House, and sold land round about it, on which more houses were built. Good houses were erected in Pall-mall, and inhabited by persons of fashion, Nell Gwynne being one of them. St. James's-place, Park-place, Arlington-street, Sackville-street, known as the longest in London without a turning; Bond-street, called after Sir Thomas Bond, of Peckham, comptroller of the household to the queen-mother and friend of James II.; Albemarle-street, Dover-street, besides all the streets departing from and surrounding St. James's-square, rose on all sides. The house newly finished by Lord Clarendon was speedily taken down that streets might occupy its site; and building operations were the fashion of the day. The noblemen who had shared the fortunes of Charles, or kept up communication with the royal exiles on the Continent, were possessed, as it were, with reminiscences of the splendour of foreign palaces, and strove to produce an approximation to them. Evelyn wrote of Berkeley House, "It is very well built, and has many noble rooms, but they are not very convenient, consisting but of one *corps de logis*. They are all rooms of state, without closets. The staircase is of cedar; the furniture is princely." And of Clarendon House, "I pronounce it the first palace in England, deserving all I have said of it, and a better encomiast." And again, when he deplored the demolition of the one and the building on the grounds of the other: "To such a mad intemperance was the age come of building about a city, by far too disproportionate already to the nation: I having in my time seen it almost as large again as it was within my memory."

The site of this "mad intemperance" has now been made the subject of an interesting volume entitled "Round about Piccadilly and Pall-mall."* Mr. Wheatley shows us the London of Evelyn and Pepys; of Sir Charles Sedley and Henry Jermyn; of Sir Peter Lely and Sir Godfrey Kneller; of Moll Davis, Mary Knight, Nell Gwynn, and the rest; of Arabella Churchill and Sarah Jennings; of Philibert Grammont, Charles Sackville, Roger L'Estrange, of the credulous who consulted Lilly, and of the *savans* who looked up to Boyle. His picture is dated after the Restoration; and there are the new streets, compared with the gabled painted overhanging timber houses of the City before the fire, clean, cool, wide, and straight. He tells us who built them and who lived in them: in plain terms and neutral tints; rather, perhaps, too plain and too neutral; for brighter colours might have been used with advantage, as, by right, the subject is entitled to more than mere catalogue precision. It was a period of magnificence and art-patronage as well as of licentious gallantry, and the brush must be often steeped in brilliant hues that would rightly depict it. Intermixed with the outskirts of this new district are the extensions made in the next century, which covered Mayfair, created Berkeley-square, continued the line of houses in Piccadilly to Hyde Park-corner, and crept down Park-lane; the London of Addison, Steele, Pope, Gay, Swift, Prior, and Prior's Kitty, of Garrick and Hogarth. In the *Weekly Journal*, of June 1st, 1717, there is a paragraph:—"The new buildings between Bond-street and Mary-le-bone go on with all possible diligence; and the houses even let and sell before they are built. They are already in great forwardness." Defoe, in his "Tour," wrote, "Several fine new streets, as Hill-street, Charles-street, &c., are built near Berkeley-square and Mayfair, in a place which herds and herdsmen, very few years ago, only inhabited. But now the residence of many of the first gentry, equally splendid and convenient." And Horace Walpole declared, November, 1759, "I stared to-day at Piccadilly like a country squire; there are twenty new stone houses." Over and above the information connecting these districts with these times are further extensions and supplemental facts that bring the work in parts up to the present day.

Piccadilly is first described with the streets to the north and south of it; then Hyde Park, the Green Park, St. James's Park, St. James's and Buckingham palaces, Pall-mall, and St. James's-square.

Most of the houses of Piccadilly are identified with interesting associations. The three first great houses,—Clarendon House, Burlington House, and Berkeley House,—have three chapters set apart to them, in which are given a large number of facts relating to their building, builders, residents, and visitors. Clarendon House, we know, was pulled down in the lifetime of Evelyn, as he records the prize paid for the purchase and realised by the old materials, and the intention to build a new town and most magnificent piazza upon the site. Burlington House is now more widely known than ever; and Berkeley House, afterwards called Devonshire House, burnt down in 1733, and rebuilt by the third Duke of Devonshire, from a design by Kent, is to the full as glorified by association with wit, rank, and beauty as it has ever been. The less important houses are taken in rotation, beginning with Swan & Edgar's, on the north side, and coming round past Fortnum & Mason's, which Melibœus said, so appreciatingly, would have been better named as Savory & Moore's, to the White Bear Inn, on the south side. In this double row of houses have lived or visited celebrities almost without number. Handel, Kent, and the *danseuse* Violette (Mrs. Garrick) were domiciled in Burlington House in the time of the celebrated third Earl. Fox lodged at an oilman's in this street; and his father, Lord Holland, also lived in it, in 1771. William Beckford, the author of "Vathek;" George Selwyn; Verrio, the painter; the Earl of Sunderland, described by Queen Anne, passionately, as the "subtillest workingest villain that is on the face of the earth;" Sir Francis Burdett, Lord Byron, Sir Thomas Lawrence, Sir William and Lady Hamilton, Madame d'Arblay, the Ear. of Coventry, who married the beautiful Miss Gunning, the Duke of Queensberry, and Lord Palmerston, are mentioned by Mr. Wheatley as having, at various times, occupied houses in Piccadilly. In the Albany, too, have lived Lord Byron, Canning, Macaulay, Smirke, Gell, Luttrell, and "Monk" Lewis, among other notabilities. But it is as the Great Western-road, with toll-pike at intervals; highwaymen scarcely farther apart; "figures yards" adjoining one another; groups of "fine gentlemen" passing along it to "take the air" in Hyde Park or try their luck at the gaming-house, either at bowls or cards; coaches full of the "quality" stuck fast by reason of the badness of the ways, or on their road to race each other in Hyde Park; with knots of passengers staring at the calash the Count de Grammont had had made in Paris and presented to the King, and which Lady Castlemaine and La Belle Stuart both importuned him to lend them as soon as they saw it; or at the Duchess of Cleveland, standing up in her chariot to call Wycherley a rascal; or at Kynaston, the handsome youth the actor of female parts, who, dressed in his stage costume, was made much of, and driven round the park by ladies of fashion directly the play was over, that we find most contrast to its present condition. Mr. Wheatley goes into the question of the origin of the name Piccadilly, and, after arraying all the facts he has been able to gather,

* "Round about Piccadilly and Pall-mall; or, a Ramble from the Haymarket to Hyde Park, consisting of a Retrospect of the various Changes that have occurred in the Court End of London." By Henry B. Wheatley. London: Smith, Elder, & Co. 1870.

comes to the conclusion that the district was called Piccadilly, and the principal house on it Piccadilly Hall, which was a distinct building to Shavers' Hall, or the great gaming-house, which was, also, from its situation, spoken of as Piccadilly. He believes Higgins the tailor, mentioned in Blount's "Glossographia" as the builder of the gambling-house, to have been a myth. Yet we find it written in the "New World of Words," compiled by Milton's nephew, as a definition of the word Pickadil, "the hem about the skirt of a garment; the extremity or utmost end of anything: whence a great gaming-house, built by one Higgins, a taylor, famous for making such old-fashioned skirts, was called Pickadilly, and a street in the suburbs of London is still known by that name:" showing the myth was taken to be a fact at that date. The pickadille was a name also given to a particularly shaped collar, alluded to by Cotgrave, Barnaby Rich, Overbury, Middleton, Fletcher, and Drayton.

Speaking of the "Junior Athenæum Club," at the corner of Down-street, the author says the Club bought the house "from Mrs. Hope for 54,650*l.*, and in addition they have to pay a ground-rent of 590*l.*" This is not quite correct. The sum paid to Mrs. Hope was 45,000*l.*, the remainder of the amount named was the cost of furniture, fittings, repairs, and alterations.

When we come to Pall-mall, the highway between St. James's Palace and Charing-cross, we seem, more distinctly still, to step back into the days of the Stuarts. It was then a roadway, bounded on the south by the wall of the park, and on the north ran an avenue of trees forming a mall, with a few small houses on the south side. A grant was made of a piece of ground 1,400 ft. in length, and 23 ft. in breadth, to Dan O'Neale, groom of the bedchamber, and John Denham, surveyor of the works, "between St. James's Park and Pall-mall," and the new street was commenced forthwith. It was at first spoken of as Catharine-street, in honour of Catharine of Braganza, but on the formation of the new Pall-mall in the park, was distinguished as the Old Pall-mall. In the Act for creating the parish of St. James, 1685, the transition is indicated in the title, "Catharine-street *alias* Pall-mall-street." Dr. Sydenham appears to have been one of the earliest and longest residents. To his house flocked the "quality" with their conflicting complaints, amongst which the spleen was as troublesome as any; and if there were courtiers not upon his list of patients, we may conclude that these, some time or other, consulted another resident in the same street, Dr. Haworth, physician to James II., when Duke of York. A sedan-chair stand became one of the institutions of the street, and many a bright "toast of the town" has been carried in these conveyances through this pleasant thoroughfare. We may be sure scores of sedans set down their occupants at Joseph Clarke's, the posture master, whose extraordinary flexibility enabled him to puzzle surgeons and tailors alike; and at Lord Bolingbroke's, when he returned from exile; and at Mrs. Delany's. Gay came often to Lord Bolingbroke's, and he wrote of the street, entranced:—

> "Oh, bear me to the paths of fair Pell-mell,
> Safe are thy pavements, grateful is thy smell;
> At distance rolls along the gilded coach,
> Nor sturdy carmen on thy walks encroach," &c.

Steele, Sterne, Gibbon, Quin, Mrs. Abingdon, were among the later celebrities who lodged in the street temporarily; and Defoe wrote in 1703, "I am lodged in the street called Pall-mall, the ordinary residence of all strangers, because of its vicinity to the Queen's Palace, the park, the Parliament House, the theatres, and the chocolate and coffee houses, where the best company frequent." Mr. Wheatley quotes, too, the lines of Charles Morris as another indication of the esteem in which this thoroughfare has been held:—

> "In town let me live, then, in town let me die;
> For in truth I can't relish the country, not I.
> If one must have a villa in summer to dwell,
> Oh give me the sweet shady side of Pall-mall."

As a specimen of the mode in which the different subjects are treated, we will quote a portion of Mr. Wheatley's description of another celebrated mansion, Chesterfield House:—

"The chief glory of Mayfair is the fine mansion, Chesterfield House, in South Audley-street, which was built by Isaac Ware, for the great Earl of Chesterfield. Its present position, surrounded by streets and houses, is very different from what it was 120 years ago. The earl's friends were surprised at his having chosen so desolate a place, and he himself said that he required a house-dog, as he had situated his house among thieves and murderers. This, however, was soon changed, for Chesterfield House became a centre, and the fashionable world came and settled round it. Although the exterior of the house is pretentious and without elegance, the interior is fine, and the earl was justly proud of it. He watched its progress with the greatest interest, and wrote lovingly about it to his friends. . . . He was proud of the large courtyard in front, and the large garden behind, two things rare in London, though then common in Paris. In March, 1749, he writes to his friend, Solomon Dayrolles:—'I have yet finished nothing but my boudoir and my library; the former is the gayest and most cheerful room in England, the latter the best.' . . . One room had a large looking-glass made up of pieces, but with all the joins painted over with Cupids and roses; another had its candle-branches constructed to represent gilt tasselled ropes. The Italian drawing-room, besides its splendid glass chandelier, had a noble marble mantelpiece, with standing figures." Mr. Wheatley denies that this house is about to be pulled down.

The author, though not giving very clear architectural descriptions, makes special mention of the marble staircase as the great feature of the house. This was originally at Cannons, but was purchased from the Duke of Chandos by the earl when that seat was taken down. The ill character of the neighbourhood alluded to in the requirement of a house-dog is borne out by the fact that Jack Sheppard lodged in Mayfair; but we must consider it gilded, if not altogether changed, when we count up the number of royal personages who have since lived in South Audley-street. Louis XVIII., Charles X., Egalité, Duke de Chartres, and Queen Caroline have all been residents.

The parks are always pleasant subjects for comment, and Mr. Wheatley places them in their usual agreeable light. There are several illustrations giving views of different portions and objects in them. In a plan of St. James's Park in the reign of Charles II., reduced from a plan in Kip's Théâtre de la Grande Brétagne, we can see the palace, with Cleveland House nestling close against it, and the Mall stretching out on both sides of it as straight as an arrow, the canal crossing the park horizontally, and, equally straight, Rosamond's Pond at the head of it, divided from it only by avenues of trees, the Duck and Decoy Island at the other end, and the Admiralty, Horse Guards, Tilt-yard, and Cock-pit close by. There is a good account of the famous pond in which so many sixteenth-century suicides took place. It is rightly stated that it was filled up in 1770; but it might have been added that another pond in the Park received the name, and bore it for seventy years after that date. A view shows Constitution-hill in 1748, an open piece of country, with a carriage and four, horsemen, and a few foot-passengers on the unfenced road. Mr. Wheatley reminds us it was the scene of the meeting between Charles II. and his brother, when the former, in reply to the congratulations of James, remarked,—"No kind of danger, James, for I am sure no man in England will take away my life to make you king." We are shown, too, the Ranger's Lodge in the Green Park, and the Cheesecake House in Hyde Park, taken down in 1835. This last the author identifies as the "Grave Maurice's Head," famous for cheese-cakes, tarts, and syllabubs in the reign of James I., and mentioned twice in Shirley's play of "Hyde Park," one of the characters declaring a bottle had been sent for from the "Maurice;" and another, that the wine was good, because "it comes from his excellence' head." Our fashionable forefathers were fond of pastry: not only did they consume "maids of honour" at Richmond in large quantities, but they gave the nickname of Tart Hall to a house in Piccadilly at this time, and were not long before they furnished a large trade to the Chelsea Bun-house. Very acceptable were the syllabubs, doubtless, to the visitors in Hyde Park, if the fashion long prevailed to hunt the most distinguished visitors, as described in a letter to Mr. Scudamore from "J. B." quoted by the author from *Notes and Queries*,—"When my Lord Protector's coach came unto y^e^ parke w^th^ Col. Ingoldsby and my lord's daughters onely (three of them all in greene, &c.), the coaches and horses flocked about them like some miracle, but they gallopped (after y^e^ mode court-pace now, and w^ch^ they all use where-ever they goe) round and round y^e^ parke, and all y^t^ great multitude hunted them, and caught them still at y^e^ turne like a hare, and then made a lane with all reverent haste for them, and soe after them againe, that I never saw y^e^ like in my life." There were 1,500 coaches present,—a fact the writer easily ascertained, because each paid an entrance-toll of 2s. 6d., and every horse was charged 1s. The catching of the ladies Cromwell at the turn is explained by the Frenchman Misson, who relates, in his mention of the "diversion of the ring," that the coaches of the company drove round and round; but "when they have turn'd for some time round one way, they face about and turn t'other: so rowls the world." Things have little changed.

As we have mentioned the illustrations of the parks, we will add a list of the houses shown in cuts. First, there is Hyde Park-corner with Apsley House in 1800; then come Melbourne, or York House, now the Albany; Hertford House (formerly Barrymore House), which is No. 105, Piccadilly, built on the figure yard of John Van Nost, described by his widow as the "late famous sculptor;" Old Apsley House, 1828, when it was a red-brick mansion as designed by the brothers Adams, and innocent of the facing of Bath stone it has since put on; three views of Burlington House, the original structure, set in its long prim garden, and showing the slip since converted into Burlington Arcade, the front, as left by the third earl, taken from a photograph in 1868, and a view of the colonnade, saved only just in time from being dispersed as old materials and now awaiting its fate in Battersea Park, with a fourth cut of the old brick curtain wall, now demolished, that was one of the curiosities of London in its time; Queensberry House, where Gay enjoyed ducal hospitality so long, its present representative Uxbridge House; Marshal Wade's house, in Old Burlington-street, built by the third Earl of Burlington, and said to be too small to live in and too large to hang to a watch chain; Clarendon House, 1667-83; Devonshire House, 1808; Chesterfield House, Buckingham House in 1748; Schomberg House; and the screen of Carlton House. The old Haymarket Theatre, and the entrance to the Opera House previous to 1820, are also shown; and there is a map of the district surveyed, and a view of one of its principal features, St. James's-square.

Half the frail ladies of the court seem to have flocked to the piazza, as this last-mentioned square was first called, directly it was built. Arabella Churchill and Moll Davis lived next door to one another in it; Nell Gwynn, and he who is said to have received an earldom for giving her up to the king, Charles Sackville, Earl of Middlesex, also lived in it; and Catherine Sedley, when sent from court, had a house furnished for her here, and, showing how curiously open sin of one sort was considered compatible with religious observances, "a seat taken for her in the new consecrated St. Ann's Church." The memories of other ladies with equal charms and superior reputations are associated with the new piazza; for at No. 6, lived John, Lord Hervey, who married the lovely Molly Lepell, and his son, who married Miss Chudleigh; and at No. 10 lived "Ada! sole daughter of my house and heart," the Countess of Lovelace. Scarcely, indeed, is there a house in the square that has not been inhabited by some well-known personage. It has been, too, a focus of curious and splendid assemblies. One hereditary Prince of Tuscany was lodged in the Earl of St. Alban's house here in 1669, and in honour of the king's birthday gave an exhibition of fanciful fireworks to the populace, and distributed several casks of Italian wine and beer to the admiring crowd. William III. supped with Earl Romney "in St. James's Great Square," that he might see the grand display of fireworks there soon after his accession; and again, a second display, before the house of the Dutch Ambassador, with a bonfire of 140 barrels of pitch, and a great distribution of wine, in commemoration of the peace. When the Earl of Ormonde was recalled from Ireland by James II., he was escorted to his house in this square by a great greeting multitude; and a less friendly mob stoned Lord Castlereagh's house in it. Another great crowd came pouring into the square when Mayor Percy arrived with the three French eagles that were substantiations of his news of the victory of Waterloo; and others to see Queen Caroline pass in state daily to the House of Peers, in 1820, from the house formerly occupied by the reputed author of "Junius," and let her Majesty by his widow. Brilliant gatherings there have been, too, of literary and artistic celebrities in several of the houses here—notably, those of the Earl of Blessington and Earl de Grey; not to be eclipsed, even in point of fashion, by the gay

company with high heels and powdered hair, that made Almack's their head-quarters in its best days. The character of the place is best laconically expressed, perhaps, by the fact that Richardson placed the residence of Sir Charles Grandison in it. It was linked to the domains of art by Wedgwood, who had his show-rooms here. Leigh Hunt tells us he has walked down Sackville-street more than once, that he might tread the same stones Mrs. Inchbald trod as she watched the light in Dr. Warren's window. Surely, with the same regard for what is worthy, we might linger in this square for a summer's day, and not exhaust its associations.

Mr. Wheatley has done much to intensify our enjoyment of this district; more, even, than the Earl of Burlington did when he painted the railings before his house with ultramarine at a guinea per ounce. Nevertheless, there will be readers of his work who will miss several requisites. Like the salad that required three persons to make it, including a maniac for the mixing, the treatment of such a subject calls for many gifts. We must be content if the materials furnished are full and correct; and be ready to throw in, as we read, the feeling and fancy they evoke. We promise our readers many momentary realisations of old times and pleasant reverberations from them before they have walked in half the footsteps pointed out.

THE SIXTY-SIXTH EXHIBITION OF THE SOCIETY OF PAINTERS IN WATER-COLOURS.

It is impracticable, within the limits at our disposal, to attempt anything like a classificating criticism of the 261 water-colour drawings, or, as most of them may more appropriately be called, "paintings in water-colours," which compose the attractive exhibition of the present season. All we can attempt is, to point out a few of those which most readily strike the attention of the visitor, or which, in our judgment, have the highest claim to something more than a passing glance of admiration. The general character of the drawings is good; and there are several works, by different well-known hands, which call for the careful study of the student, no less than that of the critic.

Of those masters of their craft whose works speak so distinctly from the walls of the Pall-Mall Gallery, the first name that occurs is one which is prefaced with the sad words "the late." It is in death alone that the hand of George Rosenberg has lost its cunning. Independently of this special claim on our regret and our sympathy, the purely artistic qualities of many, not to say of all, of the seven drawings exhibited under the name of this artist, are of a very striking character. We see ample evidence of a rare power, first to seize a special aspect of nature, to apprehend it in its very essence, and then to project it upon paper. The scenes are not like reflexions in a mirror, fixed by the arts of the chemist, but they are life-like reproductions, in which the master-thought of the scene gives tone to the whole. Thus in the "Ice Plough—the Glacier at Bawr Brae, Norway" (126) the dark, transient, sapphire hue of the riven ice is a marvel of artistic felicity. The dark green of the foliage that clusters round the double-pointed gateway of "Goodrich Castle" again looks like a bit of ivy brought into the room and hung by the side of pictures. The "Interior of Tintern Abbey" (55) is a less accented production; but as a specimen of a pure, broad, level touch, filling a large surface with a fine representation of a noble ruin, it affords an admirable study.

Among artists now happily living, one of the first places in the present exhibition must be awarded to Carl Haag, who contributes four pictures of rare and striking merit. We have no room to enter into the question of the new style of art which is developing out of what was once water-colour drawing. Whatever it may hereafter become, we can trace not only change, but progress, within the last twelve months. And it is with the more hope that we regard the issue of a very hazardous experiment, when we see it in progress under the hands of a master who can, at all events, when he chooses, produce a water-colour drawing, pure and simple. Such is "The Entrance to Ancient Samaria" (171). Such is the architectural landscape, glowing in the hues of the Eastern sunlight, that forms the background to the gorgeous robes, and striking physiognomy of "Sheik Michael el Musrab," at Palmyra (63). The fine bearded face (9), with the play of iridescent colour on the stick and the folds of the robe, and the dark-eyed "Semitic Belle" (38), are portraits that refuse to leave the memory.

Of the two contributions by Mr. Holman Hunt we can only remark that, proceeding from the pencil of an artist of such acknowledged power of minute and elaborate finish, they ought to be labelled "Note on Colours," "Rough Sketch," or "Pictorial Memorandum," or designated by some title to show that they were only intended to enrich the artist's own memory, and serve for the basis of future paintings. The glow of the "Sunset at Chimaldity," audacious and violent as it must seem to English eyes, is not an impossible effect. It twinkles and shimmers on the paper till you almost withdraw the eye. But in the queerly-drawn foliage in the foreground, the light shines on the wrong side of the plants. They must have been drawn in the morning, and would have had a totally different visual effect when interposed between the eye and that purple glory of sundown. Again, the strange, Mediæval—almost Japanese—conventional halo which represents the sun, in the "Festa at Fiesole" (71), *does* produce on the eye the effect of that disc peeping through foliage. But how much is requisite in order to form this hint into a picture? Why should the head of the little boy who drops his drum be so grotesquely disproportioned? Why should trees, and girls, and musicians, be lined in by heavy touches like the efforts of a child with a brush? No artist can escape the penalty of taking liberties with his own fame.

Mr. C. J. Pinwell's "Elixir of Love" (114) is one of the pictures that first catch the eye. It possesses much merit. The expression of the faces is often very tender,—always very true, and the sentiment is very pleasing. But the composition has not been kept within the limits of probability. Some stirring central attraction, the want of which is instinctively felt, alone could have brought those forty figures together in that scene. The cathedral is built of large stones, made of *terra cotta*. The ground is of no terrestrial material at all. This clever artist must give his imagination truths to work upon, to take the rank his powers entitle him to reach.

Mr. Gilbert's "Arrest of Guido Fawkes" (No. 104) is, it is unnecessary to say, very clever, and tells the tale well. The defiant stare of the bound ruffian, and the frightened look of the shrinking king, are admirable; and the soft cheek and well-tended locks of the young man who is straining the cords heighten the ruggedness of the prisoner. But the king, although sufficiently contemptible, is not James VI., who, by the way, was not hump-backed, as Mr. Gilbert's sovereign appears to be.

Mr. Branwhite has some remarkable instances of power over the pencil. His "Early Moonlight, a Black Frost" (No. 29) is a perfect photograph; and we think that in this, and perhaps one or two other instances, the artist has called in the aid of photography to assist in his rendering of nature. Mr. Birket Foster's "Weald of Surrey" requires to be seen at a certain distance, and then gives the swell of a rich English landscape. We have by no means exhausted the list of pictures that stand on the same line of merit. But we must claim admiration for No. 229, "Lighthouse, Messina, Calabria," by Mr. T. M. Richardson. Of what a water-colour drawing should be, in the opinion of those who hold with the early method of the art, we consider this the best specimen in the room. The scene is admirably chosen, lovely in itself, well arranged as a composition on the paper, and produced by those clear, glowing touches of pure colour, with exactly the right amount of detail and of finish that were the pride of the grand old draughtsmen who founded the English school of water-colours.

Mr. E. Burne Jones shows, with some eccentricities, qualities of very high order. His "Phyllis and Demophoon" (154), and "Love disguised as Reason" (64), will gratify others besides his own circle of unqualified admirers.

Mr. Gastineau, the Nestor of the Society, exhibits some pictures that all must think remarkable when the number of years during which he has practised the art is remembered; and few persons will visit the gallery without noticing (24) "Waiting for the Ferry-Boat," Walter Goodall; (84) "Evening," Brittan Willis; (86) "Castel Nuovo, Naples," E. A. Goodall; (94) "Vessels running for Yarmouth Roads," Duncan; (145) "Interior of Milan Cathedral," S. Read; and others.

THE ART-UNION OF LONDON ANNUAL MEETING.

The 34th annual general meeting of the members of this institution took place on Tuesday last, on the stage of the Adelphi Theatre (by the kind permission of Mr. Benjamin Webster), for the purpose of receiving the council's report, and for the distribution of the amount subscribed, with a view to the purchase of works of art during the year 1870; Lord Houghton, the president, in the chair.

Amongst the company were—The Dean of Canterbury, Professor Donaldson, Mr. John Martin, Mr. J. Fahey, Mr. G. Reid, Mr. J. B. Butterworth, Mr. J. Hopgood, Mr. Lewis Pocock, and Mr. E. E. Antrobus (hon. secretaries), Mr. Lumb Stocks, A.R.A., &c.

Mr. Lewis Pocock read the following

REPORT.

The Council of the Art-Union of London, in presenting their thirty-fourth Annual Report, have the satisfaction of stating that, in spite of the depression existing in all mercantile operations, not only in this country, but in the colonies and abroad, the popularity of the work presented to the subscribers has raised the amount collected to 10,710*l.* 10s. 6d.

The engraving to be presented to the subscribers for the ensuing year, "Light and Darkness," from a picture by Mr. George Smith, is of a subject differing in many respects from those which have been hitherto selected, being of a domestic character, and eminently calculated to awaken sympathy, not only for the Blind Girl, but for the good work she has undertaken.

A Scripture-reader, deprived of sight, she endeavours, by means of that simple but admirable invention which modern science has discovered, to impart to those around her the truths which she herself has learnt to appreciate. The subject has been ably treated by Mr. Smith; the countenance of the blind girl is earnest and impressive, while the effect of her teaching and enthusiasm upon the faces of the several members of the family by which she is surrounded, is excellently depicted. The aged grandfather and grandmother, deep in thought,—the sorrowful countenance of the young mother, the energetic appeal of the sister, are in strong contrast with the undecided expression on the countenance of the husband, wavering between the influences of a drunken associate and of the words of the reader. The engraving, the Council believe, will prove extremely popular, and acceptable to the subscribers of the Art-Union.

The Council have secured for the Society a very fine copy in chromolithography, by Messrs. Kell, of a drawing Bellagio-Como, by Mr. Birket Foster, a number of impressions of which will be distributed on this occasion.

Vacancies in the Council, caused by the retirement of Thomas Bell, esq., F.R.S., and James Anderson Rose, esq., F.R.S.L., have been filled up by the election of the Hon. Alfred Bagot and the Rev. Dr. Mortimer.

The Council have, as usual, to return their warm thanks to the local honorary secretaries and agents in every quarter of the globe for their continued zealous endeavours to spread the influence of the Society.

In spite of the depression in almost all our colonial dependencies, and the almost prohibitory amount of the duties, and dearness of money in the United States, they have to record very fair returns. Amongst a large number who merit our thanks, Mr. Dare, of Yokohama; Messrs. Eyre, Franks, Hawkes, Sherriff, and Wilkie, in Australia; Messrs. Potter, of St. John, and Wetmore, of Halifax, deserve particular notice as sending good returns; and, notwithstanding the troubles in New Zealand, good lists have come from our representatives in that place.

The accounts have been audited by three members of the Finance Committee and two gentlemen from the general body of subscribers, namely, Mr. G. J. Fearis and Mr. W. Wright, to whom the thanks of the Council are offered.

The Reserve Fund now amounts to 15,466*l.* 12s. 9d.

The following is a brief summary of the receipts and expenditure; a detailed account will, as usual, be printed in the Report:—

Amount of subscriptions		£10,710 10 6
Cost of prints of the year, report, exhibition, and almanack, including reserve of 2½ per cent.	4,191 13 5	
General printing, rent, salaries, &c.	2,428 17 1	
Set apart for prizes	4,090 0 0	
Total		10,710 10 6

The amount available for the purchase of works of art will be thus allotted:—

22 works at	£10	each.
20 „	15	„
10 „	20	„
12 „	25	„
10 „	30	„
8 „	35	„
6 „	40	„
6 „	45	„
4 „	50	„
2 „	60	„
2 „	75	„
2 „	100	„
1 work at	150	„
1 „	200	„

There will also be distributed:—

20 Bronzes of the Nelson Column.
200 Chromolithographs, "Bellagio."

Thus, with the parian busts given to all who have subscribed for ten years consecutively without gaining a prize, there will be 476 prizes, in addition to the work given to every member.

The works selected by the prizeholders of last year were, as usual, exhibited in the Gallery of the Institute of Painters in Water-colours, and large numbers visited the rooms; although, from the greatly increased number of exhibitions open to the public in the present day, our gallery does not attract the throng of visitors which, in former times, on the evenings when it was open, made Suffolk-street well-nigh impassable. The Council have much satisfaction in stating that the *quality* of the works

selected fully sustained the improvement in point of merit mentioned in last year's Report; and they would urge those who will, to-day, become possessed of the right of selection to take care that the character of the Association, in this respect, does not suffer at their hands. It is most important not to be too precipitate in making selection of a picture: the prizeholder has to remember that he is choosing something which is to hang always before his eyes, and which should tend to educate the taste as well as to please the eye.

It is not to be supposed that this principle applies *only* to large and expensive works. A simple small picture may exhibit, in its degree, as much truth, beauty, and artistic knowledge as a large canvas. Apart from these considerations, too, it is undeniable that a picture judiciously bought, is a valuable investment, and will at any time realise its cost.

An anecdote or two relating to the operations of this Society as an *art-teaching* institution for promoting the love of art may not be out of place here.

A lady subscriber, about the year 1839, gained a small prize, and, not having the least knowledge of art, consulted a member of the Council, who, after going the round of all the exhibitions, advised her to take a drawing at the New Water-colour Society for 20*l*. Being much pleased with her new acquisition,—new sensation, it may be called,—she paid several visits to the gallery, accompanied by members of her family, and before the close of the season purchased three other drawings, and from year to year, almost ever since, the family have made other purchases, and, from being without a single work of art on their walls, are now possessors of a valuable and important collection. About the same time another prize-holder of 20*l*. purchased a marine subject at the Old Water-colour Gallery. In his case, too, it was the first work of art he had ever possessed. Since then he had accumulated with great judgment a collection of drawings which may be valued at between 5,000*l*. and 6,000*l*. Many similar instances might be mentioned.

We say, then, emphatically, make your choice with care and deliberation; and if you distrust your own judgment, apply to the Selection Committee, who hold frequent meetings at the galleries, and are always ready to afford advice and assistance.

The field of selection open to the prizeholders has been extended by the addition to our list of two new public gal'eries lately established in Bond-street.

Since the Council last had occasion to address you, the magnificent suite of rooms built for the Royal Academy, in the rear of Burlington House, has been opened; and it is no exaggeration to say that, by the unanimous consent of all who have had opportunities of forming an opinion, there are not anywhere to be found galleries better adapted for their purpose, or in which the works exhibited may be more advantageously studied; and particularly it is to be remarked that the decorations, while rich and in perfect keeping, are so disposed as not, in any way, to mar the effect of the pictures, or to distract the attention of the spectator.

It is to be hoped that the increased facilities of exhibition thus afforded, will stimulate the artists of England to greater efforts to maintain a foremost place amongst their European brethren; and especially that they may not be led by facility of production to sacrifice *quality* to *quantity*.

In their Report of the year 1868, your Council, echoing the sentiments of all lovers of art—who feel how much the artists of this day are benefited by the study of the great masters of old times—expressed their regret that the exhibitions of the British Institution had come to a close. It is a matter of sincere congratulation that the Royal Academy has, during the past season, lent a portion of its fine galleries for the exhibition of a most interesting collection of old masters.

The collection was widely comprehensive and well-balanced, and, if some works were absent which we could ill afford to lose, it is to be hoped that they are only reserved for a future occasion. In no country but England could private resources yield so rare and varied a collection. As a general rule the private galleries of other countries are rich only in the works of native artists, but the ancestral families of Britain have been either more catholic in taste or more fortunate in opportunity, and thus it happens that this our land—seldom shaken by revolution and never plundered by invasion—has an accumulated art-wealth wholly beyond parallel.

The removal of the Royal Academy from Trafalgar-square has placed at the disposal of the Directors of the National Gallery the building hitherto occupied by that body, and has secured, not only an improved arrangement of the national pictures, but the introduction of others for which there had not before been space.

A third event of much importance has also taken place during the present year, namely, the removal of the national collection of portraits from Great George-street to the building bounding the southern side of the Horticultural Gardens at South Kensington. These works form a collection of portraits of very great historical interest, and are for the first time seen to advantage; every care has been taken, as far as possible, to secure for each picture the light best adapted for its due appreciation.

On the subject of education—and art-education is one of the leading topics of the day—the Council may be permitted to refer to some interesting remarks made by Sir Stafford Northcote whilst presiding at the distribution of prizes to the successful students of the Female School of Art in Queen-square, Bloomsbury. In his address Sir Stafford said, that it was *not* to be regretted that the Government, some years back, had been somewhat lax in the support of these institutions, for he was happy to think that, from the differences of opinion which then prevailed, many excellent principles had been evolved, and great improvements introduced into the teaching of art in this country. He urged the students to remember that greater responsibility rested upon them *now* in making use of the *additional advantages* which had been conferred upon them. The old proverb, that one man might take a horse to the water but twenty could not make him drink, was applicable to education. Unless the students themselves were disposed to take advantage of the appliances incidental to schools of art, all the efforts of the teachers would be nugatory.

Those who can remember the time before the Art-Union was established, know well how few works of art were to be met with in the dwellings of the middle-classes. The art-ornaments of a lower class consisted then, chiefly, of painted plaster "images," as they were called, sold by Italian boys so profusely over the country. What the public opinion in respect of the arts now is, as compared with what it then was, it is unnecessary further to point out.

The Council, in their last annual report, referred to the valuable means of instruction in art that are yearly becoming larger, and more important, and more especially to the munificent bequests of the late Mr. Felix Slade; they have now the satisfaction of being able to state that the trustees, acting under his will, have taken the three very important steps required within two years of his death. Firstly, by the appointment of John Ruskin, esq., M.A., as Professor at Oxford; secondly, by the appointment of Sir Digby Wyatt as Professor at Cambridge; and thirdly, by making arrangements to apply so much from the trust in their hands as will amount to about 7,000*l*. to the erection of a building for a school of art in connexion with the University College, London: and it is understood that a site for this purpose will be given by the College on its own land. These lectures at Oxford and Cambridge may be considered the forerunners of a new era in university education. Professor Ruskin, in commencing his course at the Sheldonian Theatre, Oxford, said the study of fine arts was thenceforth introduced at Oxford, and the lecturer enlarged upon the beneficial effects of the study of art upon the character of a nation. The attendance was one of the largest ever seen at an Oxford lecture, a great many ladies being present. The presence of unusual numbers of undergraduates also testified to the interest that Mr. Ruskin's proposed lectures had excited.

Sir Digby Wyatt, the Cambridge Slade Professor, commenced his course in the Senate House, Cambridge, on the 9th of March, by paying a graceful tribute to the memory of the late Felix Slade, who, in gratitude for the pleasure which he had himself derived from art, had founded these Professorships in order to promote the study of the theory and practice of the fine arts.

It will also be remembered that a most interesting collection of prints formed part of the munificent gift of Mr. Slade, a portion of which has been carefully arranged and placed in the library of the British Museum. Great care has evidently been taken by the intelligent keeper of the prints in their selection, so as to bring together the choicest specimens of the works of the most celebrated schools, and there are few of the great masters of the art who are not represented in this exhibition.

The forthcoming Annual International Exhibitions, the first of which will be held at Kensington next year, are a subject for congratulation as a means for the cultivation of a growing taste for the fine arts, and will show how closely artistic pursuits may be associated with works of industry.

His Royal Highness Prince Christian, as Chairman at a conference held at the rooms of the Society of Arts, pointed out how beneficially works of art-manufacture could be collected under the same roof with those of pure art. It is not beneath the dignity of art to associate the useful with the ornamental. Another important feature connected with this exhibition is that the artists associated with it, knowing the value of having the works of others placed in juxta-position with their own, have arranged that there shall be no absolute division as to nationality, and thus an opportunity will be afforded of seeing the works of native artists placed side by side with those of other countries; and the result looked for is to get them out of the habit of working in any particular mode, because it is English, whilst perhaps rejecting the better mode belonging to a foreign country.

Let us hope that with so many collections of fine works, and other means of culture which ought to have the effect of elevating the public taste, there may result such a *demand* for beauty of design, and elegance of form, in all our manufactures, textile, fictile, or others, as will certainly induce the *supply*. Such supply, with the many existing appliances for the cultivation of the eye and the hand of the workman, ought to be forthcoming, and ought to place England in as good a position as regards the taste of her productions as she has generally held in respect of the quality of her work.

LEWIS POCOCK, E. E. ANTROBUS, } Hon. Secs.

The Chairman, in moving that the report be adopted, observed that its object was to recommend to the interest and goodwill of the meeting the purposes of this society, and he thought that the writer of the report had very judiciously touched upon the matters connected with art which had taken place in this country since they last met. He had pressed upon them a remark as to the importance which attached to the character of the work which the prize-holders might select at the forthcoming exhibition of the Royal Academy. It was impossible to estimate the importance of a right public judgment in these matters; because, considering the enormous circulation which was given to the prints of the Art-Union, it was most essential that the subjects selected should be equally high and noble in character as the works the society attempted to recommend to the public. The association was guided by two principles,—first, that the work should be a good specimen of art in itself; and, secondly, that it should be interesting to the community. They desired to extend the sphere of the society's operations, and therefore it was of the utmost importance that they should keep these two considerations in mind. He had reason to believe that they should have an admirable exhibition at the Royal Academy this year; but it was deeply to be regretted that one of our artists (Mr. Leighton) had been prevented by the state of his health from contributing to the collection; and it was also to be deplored that Mr. Maclise had been removed by death from the scene in which he had so often distinguished himself. Mr. Maclise had been greatly associated with the Art-Union of London, notably in regard to his valuable work, "The Sleeping Beauty," which, it would be recollected, was one of the prize pictures many years ago, and for which only 300*l*. were paid. A few years afterwards the same work was sold for 1,200*l*., and there was no doubt that at the present time it would command even a larger amount. He congratulated the council upon the successful result of their continued exertions, and warmly commended the report to the attention of the meeting.

The Dean of Canterbury seconded the motion, which was adopted.

Professor Donaldson proposed, and Mr. Butterworth seconded, a vote of thanks to Mr. Lewis Pocock and Mr. Antrobus, the honorary secretaries, which was carried.

Thanks were then voted to Mr. Webster, for granting the use of the theatre, and to Mr. John Kinloch, for the complete arrangements he had made for the purposes of the meeting.

Other resolutions of a formal nature were passed, and the distribution of prizes was then proceeded with.

200*l*.—Mellick, C. T., St. John, N.B.
150*l*.—Wyon, A. B., Kilburn.
100*l*.—Booker, W. H., Nottingham; Elliott, J., Kapunda.
75*l*.—Pepys, W. H., Cologne; Richardson, Henry, King William-street.
60*l*.—Clarke, George, St. John's-wood; Hunt, S., India Office.
50*l*.—Ellis, C., jun., Maidstone; England, W., Bush-lane; Taylor, A. A., Watling-street; Thomas, G. E., Barbadoes.
45*l*.—Argent, W. C., Mauritius; Dangar, F. H., Great St. Helens; Dickson, J., Islington; Grose, W., Botesdale; Randon, Dr., Malta; Venn, W. W., jun., Blackheath.
40*l*.—Alston, J. A., Westbury; Butterworth, J. W., Fleet-street; Day, W., Marden; Hammond, E., Camdentown; McLaren, Jno., Bedford; Newton, E. J., Fleet-street.
35*l*.—Baker, C., Herbert-street; Coard, H., Arbour-villas; Davidson, Rev. W., Clare, S.A.; Hearne, John, Bristol; Moses, S. M., Shanghai; Ridout, G. P., Toronto; Powell, H., Euston-road; Wylde, R. G., South Kensington Museum.
30*l*.—Eiraud, F., Smyrna; Frazer, J. A., Yokohama; Furlong, T., St. John, N.B.; Gregg, E., Kensington-gardens; Nash, W., Strand; Noseda, Mr. Wellington-street; Parkinson, R., St. Anne's Bay; Scott, W. M., Durham; Sharpe, R. K., Westminster Bridge-road; Sutherland, R., Handsworth.
25*l*.—Aldred, W., Halesworth; Cooper, J. R., Canterbury; Duffield, John, Manchester; Edmeston, J., Dawson-place; Harrison, J. S., Sydney; Martin, W. H., Throgmorton-street; Moore, Capt., Winchester; Sprague, J. D., Sherborne-lane, Thacker, Spinks, & Co.; Whitaker, W. W., Manchester; W. Q., Oldham; Yates, John, Chorley.
20*l*.—Ansdell, J., Arica; Dandison, N. J., Barnsley; Frazer, A., Edinburgh; Green, T., Dalton-in-Furness; Hendricks, M., Port Elizabeth; Houghton, Mrs., Newton; Norton, G. S., Streatham; Nugent, G. H., Arica; Romans, H., Halifax, Nova Scotia; Wilson, J., Horncastle.
15*l*.—Arnold, Mrs., Brompton; Badcock, D., Taunton; Batchelor, T. B., Newport, M.; Bond, W. T., Bexley-heath; Cameron, Mrs., Duke-street; Christie, George, Stirling; Eckroyd, W. J., Melbourne; Henly, Rev. Jn., Twyford; Larby, G. A., Spa-road; Loibl, Mrs., Holland-terrace; Marshall, Rev. E., Sandford; Mason, L. T. M., Junior Carlton Club; Moody, Mrs., E. B., Yarmouth, N.S.; Peacock, C. J., Scarborough; Rogers, J., Lewisham; Russon, R., Walsall; Stennett, W. C., Bedford; Sutcliffe, J., Grimsby; Taylor, R., Ipswich; Van Reed, E. M., Yohohama.
10*l*.—Allen, R., Port Elizabeth; Arnold, Mrs., Wallingford; Coey, Sir E., Belfast; Dewer, E., Gordon-street; Edwards, F., jun., Great Marlborough-street; Eisdell, A. R., Reading; Hanson, T., New North-road; Kersley, T. H., Birmingham; Lindsay, A., Quebec; Mallett, H., Clapham-road; McNamara, Dr., Newgate-street; Murray, T. A., Tasmania; Partridge, Miss, Ballarat; Pattison, H. J., Putney-heath; Pearce, S., Kapunda; Rogers, J. C., Ivybridge; Thompson, J. C., Hull; Tuke, Dr. Albemarle-street; Turnbull, G. M., Adelaide; Upcott, W. B., Wolverhampton; Wetmore, H. R., Halifax; Woolfe, B. J., Charles-street.
A copy in Bronze of the "Nelson" Column.—Baumer, C. H., St. John's-wood; Boreman, J., Shoe-lane; Cass, J. B., Little Hampton; Charrington, R. L., Carshalton; Day, T., Canonbury; Henderson, J. McE., Dumfries; Howis, C., Brentford; Kemp, S. V., Launceston; Leeds, T. W., St. John's, N.B.; Middlemiss, Geelong; Morris, W., Ross; Neale, J., Birmingham; Newton, F., Maida-hill, W.; Northampton, Marquis of, Piccadilly; Ogilvy, C. F., Lee; Smith, H., Mill-street; Stanford, E., Steyning; Tucker, R. C., Ashburton; Warburton, J. J., Haslingden; Wootten, Wootten W., Headington.

Thanks were then voted to Miss Nisbet and Miss Woodman, to the scrutineers, and to the chairman.

The British Museum.—Under the auspices of the council of the Working Men's Club Union Saturday visits have been made,—one to the Egyptian Department of the British Museum, another to the geological collection; and on Saturday last Professor Flower, conservator of the magnificent museum of the Royal College of Surgeons, received about fifty of the working men of the metropolis, to whom he delivered three lectures, explanatory of human and comparative osteology. The visits paid on Saturdays to the British Museum force the repetition of the inquiry, why is the British Museum not open to the public on Saturday always? It is the only day on which a large number of persons have any chance of going about. The officers of the British Museum should seek to keep up with the times.

PAROCHIAL ASSESSMENTS.*

This paper contains a description of the various kinds of property in respect of which poor-rates are levied, and the manner of valuing that property for the assessment. Property, to be expressly liable to the poor-rate under the statute of Elizabeth, must be "locally within the parish;" "visible within the parish;" and, "productive of a private profit within the parish."

Briefly, it may be described as—

1. Lands (in occupation) in the parish.
2. Houses (in occupation) in the parish.
3. Tithes impropriate and propriations of tithes arising within the parish.
4. Coal mines (in occupation) in the parish.
5. Saleable underwoods in the parish.

All the lands in occupation in a parish, except woodlands, are rateable; but, the word "lands" in the statute does not appear to carry the usual legal meaning of that word, because it cannot include houses, as they are separately referred to therein. The words "lands and houses," together, have been held to include all descriptions of landed property used for any purpose above the surface of the ground, excepting that of growing wood and timber. These products of the land have always been held to be exempt, because "saleable underwoods" are specially made liable.

In the same manner, as regards things below the surface of the soil, the Courts of Law have always held that all mines, other than coal-mines, were intended to be exempted from poor-rate, because "coal mines" are specially by name made liable (Rex *v.* Sedgley, 2 B. and A., 73).

This specialty has raised a difficulty. It has been necessary for the courts to determine where land, which is rateable, ended, and a mine, which is not rateable, began. In the case of Rex *v.* St. Austell (reported in 5 B. and A., 693), it was held that a part of the produce of a mine (not a coal-mine) reserved to the owner was subject to the rate; not as a mine, but as a reservation of the soil or land itself, and the owner was held to be rateable as occupying the land. In the case of Rex *v.* Sedgley, Lord Tenterden thus described the difficulty he felt in attempting to reconcile the judicial dicta on this subject:—"The whole mine not being a coal-mine is exempt. If the owner works the mine and takes the whole produce, he is not rateable for it, either as mine or land. If he lets it to an occupier, reserving a rent, the occupier is not rateable for it either as a mine or land, nor is the owner liable, no one being rateable for a mere rent. But, if the owner lets it, reserving a part of the produce, that part is held to be land, although the whole mine, or the whole of its produce is not land, and the owner is rateable for this *part* of the mine as occupier of land, though he would not be rateable for it if he occupied and worked the whole and took directly the whole produce."

In the case of Rex *v.* Earl Pomfret (5 M. and S., 139), it was held that ore of a lead-mine, reserved by the owner, which had to be smelted before it was rendered, was not a portion of the soil, and not subject to the rate. And in the case of Rex *v.* Tremayne (4 B. and A., 162), it was held that where the reservation to the owner was the value in money of a portion of a mine, other than a coal-mine, the owner is not rateable for that.

In the case of the Telargoch Mining Company *v.* St. Asaph Union, it was held that the appellants were rateable to the poor-rate in respect of the occupation of a stream, which they had diverted from its natural course for the purpose of working the machinery connected with a lead-mine which is not rateable. The water-course was about a mile and a half in length, being partly open, partly tunnelled, and for about 350 yards in pipes. The Company were owners of part of the land occupied by the water-course, and part of it they rented. The land was held to be enhanced in value by its capability of conveying water, and not exempt from rateability by reason of its connexion with a lead-mine.

Operations involving the consumption of the soil itself, but which do not amount to mining, render the land operated on subject to the rate. For example,—stone quarries, lime works, slate works, salt works, potteries, brick-fields, pits of fullers' earth, sand, marl, and gravel, have all been held to be rateable; but, with this distinct qualification, that if the minerals cannot be got without involving a mining operation, then they are not rateable.

To enumerate all the purposes for which lands can be so occupied as to be rateable, would, in these days, almost amount to an impossibility. There are lands used for agricultural purposes, accommodation lands, building lands, railways, private roads and ways, canals, reservoirs, docks, gas-works, water-works, markets, yards, wharfs, bleaching-grounds, fisheries, &c.

As regards navigation and fishing, a mere right over the water without an interest in the land is not rateable.

The right of shooting over land occasionally complicates questions concerning the rateability of the respective occupiers of the land and the shooting. It was clearly laid down in the case of the Queen *v.* Battle Union (L. R., vol. ii., p. 8), that, where an owner retains in his own occupation woodland, but lets the right of shooting over it with a neighbouring mansion, he is rateable for the land and the shooting, on the ground that the right to take game is an incident to the occupation of the land, and that he derives a benefit, not from taking the game himself, but from a pecuniary recompense made to him for allowing some one else to take it. His occupation of the woodland is productive to him of a value enhanced by the rent which he receives for the shooting. The case of Reg. *v.* Thurlstorn was of a different character. The landowner had let a farm to one man, and had granted the right of shooting over the farm to another. It was held that the occupier of the farm is to be rated only for the bare occupation of the land (28 L. J. M. C., 106).

The right of shooting alone without the occupation of land, or without connexion with some rateable subject, is not rateable. This was decided in the case of the Overseers of Hilton and Wakefield, and the Overseers of the Township of Bowes (L. R., vol. i., p. 359). It was there laid down that, in order to make a person rateable to the poor-rate, he must be the occupier of some subject matter which is itself rateable; but, the rateable value of the subject matter may be enhanced by something which is incident to the occupation, though not in itself rateable, such as the right of shooting. The case was a very peculiar one. The wastes of a manor had been converted into a stinted pasture under an inclosure award; but, the rights of minerals and of shooting were left in the lords. Thus the right of shooting has been severed from the ownership, as well as the occupancy of the soil.

Springs of water are rateable in the sense that they enhance the value of the lands in which they arise. In the case of R. *v.* Miller (3 Cowp., 69), Lord Mansfield said,—"The value of the four acres of land arises partly from the building and partly from the spring that produces the mineral water." In the case of Rex *v.* New River Company, the land in the parish of Amwell was of the value of 5*l.* only; but it had a spring in it, which enabled the company by means of pipes to bring water to London, and which increased the value of the land. The land with this spring in it was, therefore, rated at 300*l.*, although the water alone would not have been rateable at all, and the land alone would only have been rated at 5*l.*

The rateability of "lands" may be very fairly summed up by the "rule of thumb" of our ancestors, viz., that everything in the parish which can be seen is rateable except woods, other than saleable underwoods, provided always that there is a beneficial use and occupation made of them, and that they do not belong to the Crown.

"Houses" being expressly mentioned in the Act, in the same way that coal-mines and saleable underwoods are mentioned, it might have been supposed, as in the case of other mines and other woods, that houses only are rateable, and other buildings exempt. But, if ever such a construction had been contended for, it has not been held to be law. All houses, whether the dwellings of men, cattle, or animals, are subject to the rate; so are barns and granaries for the housing of corn or produce, warehouses, lighthouses, machine-houses, and the like; so also are kilns, furnaces, factories, mills, bridges, and erections of every kind, with the following exception, viz., property occupied for the purposes of the Crown. Neither the Crown, nor the king, nor the queen, being named in the Act of Elizabeth, is bound by the Act; and it has been held to follow that lands or houses occupied by the Crown, or for the purposes of the Crown, are not liable to be rated. This principle exempts from rates, not only royal palaces, but also the offices of the secretaries of state, the Horse-guards, the Post-office, and many similar buildings. Police-courts, county-courts, and even county buildings occupied as lodgings at the Assizes for the judges, have been held to be exempt, on the ground that, in effect, the Crown is in occupation by public servants, carrying out the purposes of the Government of the country. The queen is the fountain of justice to all subjects of the realm, and buildings which are necessarily occupied for the purpose of administering justice and cognate objects are within the exception, as buildings really occupied for the discharge of duties arising out of the prerogatives of the Crown. The Queen *v.* St. Martin's, Leicester (L. R., vol. ii., p. 493), The Queen *v.* Castle View, Leicester (L. R., vol. ii., p. 497).

But, nevertheless, in the case of the justices of Lancashire and the overseers of the township of Cheetham (Law Reports, Q. B. cases, vol. iii., p. 14), it was held that buildings used as courts, lodgings for her Majesty's judges and other officers, lock-ups, and all other accommodation necessary for carrying on the civil and criminal business of the Assizes, but out of which a profit is made by letting portions of such building to the corporation of a town, notwithstanding the corporation use the building for public purposes, are liable to be rated in respect of and to the extent of the profit received, whatever the occupation may be.

Churches, chapels, and other places exclusively appropriated to public religious worship are also exempt. But the exemption does not apply to any part of such churches, chapels, or premises which are not so exclusively appropriated, and from which parts not so exclusively appropriated some person receives rent, or derives profit or advantage (3 & 4 Wm. IV., c. 30).

Tenements and hereditaments, including lands, which are the property of and in the occupation of a municipal corporation, in which the limits of the parish are co-extensive with the limits of the city or borough, and in which city or borough the poor are relieved by one entire poor-rate, are exempted from poor-rates, because it was considered that the imposition of the rate on the borough property would be of no advantage to the borough, as the same parties would be both receivers and payers of the rate (4 & 5 Vict., c. 48). But, although this view was correct as regarded the particular parish or borough, yet, if such parish now forms one of a union of parishes assessable to the common funds of the union, according to the rateable value of the property comprised therein, under the Union Chargeability Act, 28 & 29 Vict., c. 79, there are reasonable grounds of complaint on behalf of the other parishes in the union, as the exemption of the corporation property in one parish disturbs the equality of the basis upon which the contributions of the several parishes are founded. Notwithstanding this, it has been held in the case of the Queen *v.* Mayor of Oldham (L. R., Q. B. Cases, vol. iii., p. 474), that such property is still exempt, so that it is probable that the question will be litigated again, and this particular exemption will soon be abolished.

Societies established exclusively for purposes of science, literature, or the fine arts, are specially exempted by statute from county, borough, parochial, and other local rates; provided, nevertheless, that each of such societies shall be supported, wholly or in part, by annual voluntary contributions, and shall not, and by its laws may not, make any dividend, gift, division, or bonus in money unto or between any of its members; and provided also that it obtain a certificate from the barrister appointed to certify the rules of friendly societies (6 & 7 Vict., c. 36). But it has been held that the statute exempts the society and not its property; so that, if the society is rated, its members must appeal (*Q. v.* Justices of Birmingham, 18 L. I. R. M. C., 83).

The Linnæan Society, incorporated for the cultivation of the science of natural history and for the promotion of every kind of improvement in arts and sciences, has been held to be exempt (Linnæan Society of London *v.* St. Anne's, Westminster, 23 L. J. R. M. C., 148). So also has an institution for the collection and maintenance of a library of books for the use of the members and of persons who subscribed for the occasion only. But, an institution established partly for the amusement of its members, such as a concert-hall, built and supported by subscription; or a library, a part of which is applied to the reading

* By Mr. Edward Ryde. Read at the ordinary general meeting of the Institution of Surveyors, April 25th, 1870, Mr. Robert Collier Driver in the chair.

of newspapers, is not exempt (Q. *v.* Brandt, 20 L. J. R. M. C., 119; Q. *v.* Gaskell, 21 L. J. R. M. C., 29; Russell Institution *v.* St. Giles-in-the-Fields, 23 L. J. R. M. C., 65).

A mechanics' institution, some of whose rooms are occasionally let out for concerts, lectures, and public meetings, is not exempt (Parvis *v.* Trail, 18 L. J. R. M. C., 57); nor is a subscription library, if a part of its premises is let off to another scientific society (Earl of Clarendon *v.* St. James's, Westminster, 20 L. J. R. M. C., 213).

National schools, hospitals, dispensaries, and other similar properties held for public purposes only, where the trustees derive no personal pecuniary profit for themselves, have, until very recently, been considered to be exempt from rates; but the case of the Mersey Docks and Harbour Board *v.* Jones and Another (30 L. J. M. C., 239), carried by appeal from a judgment of the Exchequer Chamber to the House of Lords, has established the contrary rule. Six of the judges assisted the Peers when the argument was heard, of whom five expressed opinions that the exemption could not be supported. The remaining judge considered that the exemption had been established by a long current of authorities, and could not now be rejected. Since this decision was given, the "Sunday and Ragged Schools (Exemption from Rating) Act, 1869," has been passed, by which every authority having power to impose or levy any rate, may exempt from the payment of any rate for any purpose whatever any building or part of a building used exclusively as a Sunday school or ragged school.

Much litigation has arisen, in connexion with the assessment of buildings, concerning the rateability of fixtures, trade plant, and machinery. It was decided in the case Reg. *v.* Southampton Dock Company (20 L. J. M. C., 162) that buildings to which machinery is attached for the purposes of trade, are assessable to the extent of their existing value, as combined with the machinery, whether such machinery be real or personal property. In the case of The Queen *v.* North Staffordshire Railway Company (30 L. J. M. C., 68), it was decided that "things so attached to the freehold as to become part of it," and "things which, though capable of being removed, are yet so far attached as that it is intended they shall remain permanently connected with the railway or the premises used with it, and remain permanent appendages to it, as essential to its working," are rateable.

In the case of the Queen *v.* The Phœnix Gaslight and Coke Company (L. R., vol. i., p. 241), it was decided that the retorts, purifiers, gasholders, steam-engines, and boilers are parts of the works which are absolutely necessary to the manufacture of gas, which is the purpose of the company's undertaking; that it was intended, when those things were erected, that they should remain permanently connected with the premises, and that they should remain permanent appendages to it, as essential to its working; and, if not forming part of the freehold, they are still so far connected with it as to be intended to be permanently attached to it, and, therefore, they ought to be taken into account in determining the rateable value of the land and premises. Without the retorts, purifiers, steam-engines, and gasholders the premises would be worthless for the purpose for which they were erected:—the building would not be a gas manufactory at all. All these things are fixed, and so far annexed as to be intended to be permanent, and being really necessary for the use of the premises as gasworks, they therefore form part of the rateable subject.

So in the case of a railway, although the sleepers are in no way fastened to the ground, but are laid on and packed up in ballast, and the rails are laid on and bolted to the sleepers only, nevertheless it has been held that they form as much parts of the rateable hereditament as does a house, the foundations of which only rest upon a bed of concrete (Great Western Railway *v.* Melksham, J.P., vol. xxxiv., p. 102).

Utensils in trade and furniture are not rateable. The meters of a gas company were held, in the Phœnix Gas case already referred to, to be mere ordinary chattels, kept for the purpose of measuring the gas, and in no sense part of the gasworks. In the North Staffordshire railway case, things moveable, such as office and station furniture, were held to be chattels, and not rateable. In many cases, such things as a mirror fixed to a wall have been held to be furniture, and not rateable; but, a billiard-table fixed to a floor has been held to enhance the value of the house to which it was attached, and in that way to become rateable. Power-looms in a silk-mill, portable and continually moved from place to place, but steadied by their feet being screwed to the flooring, are not rateable (Reg. *v.* Overseers of Halstead, J.P., 1867, p. 373). It was held that, although such fixtures are no doubt fixed to the freehold, they are, nevertheless, not so fixed as to make them part of the freehold, so that on a demise they would pass with the premises.

"*Tithes impropriate*" are those which have been severed from a benefice, and are now payable to some lay person or corporation.

"*Propriations*" or "*appropriations of tithes*," are tithes severed from a benefice, and annexed to a spiritual corporation.

These are the only description of tithes expressly referred to in the statute of Elizabeth; but, all tithes arising within the parish are rateable, and, every rent-charge payable instead of such tithes, is subject to all rates and taxes, in like manner as the tithes commuted for such rent-charge have heretofore been subject (6 & 7 Wm., c. 71, s. 69).

Coal Mines, in occupation in the parish, are rateable for what they produce; that is to say, at such a sum as they would let for. But, as has been already explained under the head of land, all other mines have been held to be exempt, because coal-mines are especially made liable.

Saleable Underwoods.—The statute of Elizabeth especially refers to saleable underwoods, and specially makes them rateable. In the early cases, saleable underwoods were defined as being "wood which grows expeditiously, sends up many shoots from one stool, the root remaining perfect, from which the shoots are cut, and producing new shoots, and so yielding a succession of profits." But, in a recent case, Lord Fitzhardinge *v.* Pritchett (Law Rep., Q. B. Cases, vol. ii., p. 141), Mr. Justice Mellor has very clearly defined what woods are saleable underwoods within the meaning of the statute of Elizabeth. He says,—"The question does not depend upon whether the woods consist of what are timber trees, either by general or local custom; the nature and quality of the wood is not the test; but, wherever the woods are treated so as to raise successive crops from the same roots and stools, and, whether the crops ripen, and are cut at intervals of ten, fifteen, or even thirty years, is immaterial; or, whether the woods consist of oak, ash, or elm, which are universally timber trees; or, of beech, which may be timber by custom; or, willow, the stools of which can be and are so treated as to procure a succession of saleable crops: in such cases, the woods are saleable underwoods." *

ON CHIARO-SCURO IN ARCHITECTURE.†

THE chief cause or source of beauty and power in a building is the light and shade, as it is in a picture of that building. It is a more essential element in architecture than it is in painting and sculpture, in which arts there is more to atone, in some measure, for its partial absence or deficiency than there is in architecture, which is absolutely dependent for legitimate effect upon the compositions of forms and relievo. With a view to light and shade, all planning has been conducted in all great buildings. All buildings celebrated for their beauty present the eye with large masses of shade brought up against and heightening the value of the important and prominent parts illuminated, and give strength and power of effect to the whole.

Light and shade were a prime element in the Egyptian and Greek temples, more especially in the provision of the deep and solemn pronaos, or front portico. Indeed, neither Egyptian nor Greek ever erected a building in which it was not a prime element of effect. It is the chief charm in the beautiful courts of the Alhambra; it is the beauty of the Italian loggia, in all which the openings and depth of recesses express the primary idea of shelter, grateful to the mind in Oriental lands, from heat, and in occidental and hyperborean climes from damp and cold. In interiors, the beauty of St. Stephen's, Walbrook, is its exhibition of plan or form within form. It is the same in St. Sophia's, at Constantinople, and in the Roman Pantheon, and in all great interiors. But breadth and depth of light and shade are embodied in all great buildings, ancient, modern, or Mediæval, Oriental or occidental. We see this in Gothic minster, in Moorish palace, in Indian tomb, in all architecture aspiring to excellence, to excite the loftier emotions. In all such, I believe, this must ever be a prime element.

The same principles of uniformity and variety, or of variegated unity, which guide the historical painter in planning the figures and general forms of a picture, with a view to a broad distribution of light and shade, are to guide the architect in arranging the masses of his building, so that they shall form an effective and harmonious whole. There should be in an extensive architectural composition, as in painting, groups and masses of light, half light, darks and half darks, and reflexes; and of these lights and darks one should be principal, the rest subordinate, and all generally co-operating to produce a totality and completeness in the work; and, as in painting, the principal light is generally so disposed as to give the greatest lustre to that part where the action and personages are of the greatest consequence, so in architecture the highest light will be generally in the central entrance, portico, or porch, and fall on entablature, column, archivolt,—that is, on the brightest, richest, most delicate and graceful forms; while the deepest shade will be brought up to enhance their value, and throw out these richest and brightest forms in the design.

In grand architecture the darks must be extensive, and must greatly preponderate over the lights and middle tints; and the grandest can only be had where a round-arched style gives the opportunity for openings of any breadth and height consistent with grandeur of concomitant parts and arrangement,—that is to say, it is more in the power of an arcuated than of a trabeated style to arrange for large and deep masses of shade, producing the greatest breadth and brilliancy of effect; and the Byzantine and Romanesque styles seem better than the Gothic. It is only in such, I believe, you can have the utmost measure of what is properly called breadth of effect, which may be defined as abundance of one thing in one place, or, as Ruskin says, "mass of everything—of bulk, of light, of darkness, of colour, not mere sum of any of these, but breadth of them; not broken light or scattered darkness, nor divided weight, but solid stone, broad sunshine, starless shade."

If you are under the necessity of having a square or oblong block, with a number of small equal openings—if you are not allowed to group or deepen some of the latter, recess others, and bring out a third—you may produce a pleasing building, but you cannot produce a powerful building or such as will excite high emotions in the breast, because it will lack some of the essentials of architectural greatness.

What Reynolds says of finish in painting will apply to detail and sculptural decoration in architecture:—"The highest finishing is labour in vain unless there be at the same time preserved a breadth of light and shadow." You may have beauty of colour to atone in some measure for want of form, and I believe in flat blocks of building, which cannot, from their nature, position, and purpose, as great street rows, have much variety or relief from shadow, it should be sought in opposition of colour in the materials, as in pictures painted on a light key. But that is a lower element of architecture, as it is in painting.

Where the artist is at liberty to relieve by light and shadow, variety of colour is of little consequence. But where he is necessarily restricted, here coloured brick is of great value. It should, I think, be employed to assist shadow, or repair the shortcomings of chiaro-scuro.

Colour in architecture, say what you will about it, as it arose in the East, so it belongs to the East and South, to brighter climes than ours, and can never be a prime element in northern architecture. But be this as it may, let me say distinctly that I consider the charm of beautiful *form* as greater than any arising from colour or rich material, and that it is, and must ever be, the chief merit of architecture.

While the greatest buildings chiefly owe their beauty to it, some could be pointed to which owe their failure to a want of it: St. Peter's, at Rome, and the new Houses of Parliament, at Westminster, may both be cited with advantage as a warning on this head—as failing of legitimate effect, the former from the non-employment of detached columns, and the latter from the division into too minute openings of windows and doors.

The superiority of St. Paul's Cathedral to

* To be continued.

† From a paper by Mr. S. Huggins, read at the Liverpool Architectural Society.

St. Peter's at Rome consists chiefly in the superior provision for light and shade in the colonnades of the western front and transepts and dome tower, which are wanting in the Roman edifice. The latter is equal to St. Paul's in beauty of outline, and superior to it in size and sculptural embellishment and magnificence, and in simplicity of design, being of one order, while St. Paul's is of two. But its designers ignored the chief source of poetic beauty and power in architecture, namely, provision for play of light and shade by the projection and reception of parts. It has not one detached column; all its columns are attached. It is without porticoes, which give it a blockish effect, which is aggravated by the colonnades of the area or front courts.

This building has been the subject of strange remarks. It has been praised for what are its faults; it has been blamed for what are its beauties, as, for example, the attic order, which is one of its greatest merits, however treated or proportioned. But none, I think, have ever pointed out what is its great defect. St. Peter's Church at Rome not only cannot be void of merit, it cannot be without great qualities, coming as it does from under the mighty hand of Michelangelo, who, of all concerned in it, had perhaps most to do with it; but it has the great defect of being without any adequate provision externally for light and shade—a defect which Wren, who must have been greatly indebted to that building, carefully avoided, for the chief merit of St. Paul's is plentiful display of light and shade in its west front.

The greatest merit of St. Paul's is the arrangement of the portico of the west front for bringing up the deepest shade to heighten the brilliant light of the columns and the half light of the flanking west towers, of which Wren has made the best possible use in his design. Yet strange to say, this chief merit of St. Paul's is seldom mentioned, and in buildings that owe most to it is not acknowledged. St. Isaac's Church, at St. Petersburg, a gigantic plagiarism from St. Paul's, ignores this feature, or, at least, makes no attempt to emulate it, and fails utterly in achieving the poetic power and unity of St. Paul's. I suppose so important and costly a commission, under imperial patronage, for the metropolitan church of a great empire, was never executed with so little of architectural genius as this spoiled reproduction of St. Paul's Cathedral at St. Petersburg, which is good, at least, for showing that breadth of light and shade cannot be got by merely sticking on Greek porticoes to a square block of building.

The one thing opposed to this quality in the northern Gothic—the style chosen for the Houses of Parliament—is the non-employment of the detached column on a full scale on the exterior, which I look upon as the great defect of the style, excluding from it much of the sensuous beauty that charms us in the Classic. The column, wherever it occurs in the Gothic in its integrity, with cap and base, and detached, and even where, as in door and window reveals, it is not entirely detached, is among the redeeming beauties of the style. The miniature arcade galleries in the thickness of the walls, originated by the Lombards, and which were not superseded by the Gothic, as Mr. Fergusson asserts they were, but continued into the Pointed style, and appearing in the Cathedral of Paris, and in many others, forms the most beautiful ornament of that or of any style. In the towers of Laon Cathedral, in France, where the detached column is liberally introduced, and occurs here clustered, there single, it gives a magical and romantic effect of lightness, and a poetic play of light and shade that is truly charming. Beasts are seen looking out from between these columns as from between the bars of a cage. But it nowhere occurs on the great scale as in the interiors or in some cloisters, where its exceeding beauty shows what it might have done for the west fronts of cathedrals had it been there applied, and embodied in a porch or portico,—a feature which seems to have been more nearly approached in the Romanesque and Byzantine styles than in the Gothic. The Cathedral of Pisa is an attempt at the complete Greek Periptery, which was too much. It is only in the fronts it would be admissible in the style, and there it would be an immense improvement; and nothing would mark a nobler step in advance by the modern Gothic school than the development of a detached columnar portico, or porch of clustered or grouped columns for the fronts of their churches.

Chiaro-scuro in architecture, as in painting, must always remain from its nature difficult to teach, or bring under the government of rules. The student should watch the finest examples under their best effects of light and shadow, and try to get at the seat of their charm; a good deal of sketching, and even of modelling, should be directed to this end.

Nothing would have a happier result upon our architecture than the successful study and application of the principles of light and shade by architects, and the uniform aim on their part at breadth and depth of effect in public if not in private buildings; nothing, I say, would have a happier result upon our architecture than this. It would at once become noble and real; for only in proportion as a building has depth and reality can it have this breadth of light and shade.

This principle applies to interiors as well as to exteriors; for this we had best go to some of the great buildings of the middle ages on the Continent,—the French Gothic cathedrals,—which I consider among the master-pieces of the world in the kind or character of architectural beauty proper to Gothic, or, in fact, in any kind. There is a chaste classic simplicity in the plans of these edifices,—Paris, Amiens, Evereux, Chartres, Beauvais,—which, by the way, show more sympathy with the Greek temple plan (often exhibiting the cylindrical shaft of quite classic proportions) than the English, which are quite the antithesis of it.

In the whole of this great group of edifices the architects seem vieing with each other for the production of the greatest and most beautiful interior; of which they seem to have had the truest conception,—a higher and truer than the English; for in some of these, at Rheims, Amiens, Beauvais, which latter I suppose to be one of the most glorious apartments on earth, some of the highest notes of architecture have been struck. In all these the principle of depth, or of plane behind plane, has been exhibited to perfection, and the amplest provision made for breadth and power of light and shade, by arrangement of the side aisles and disposition of the light, which in these are carried to the utmost perfection of conceivable beauty by the circular or multangular apse, which it is truly wonderful the English architects should have omitted;—a feature so necessary to combine the side perspectives and give the highest interior unity and grandeur; of which the French architects had so true a conception; and which the Arabians also sought in their great mosques by circular and domed terminations. If the French architects sacrificed exterior to interior grandeur, they made the sacrifice on the *right side*, the enclosure of interior space in the grandest manner being the highest object of our art. But the expression of internal length is what was chiefly aimed at by the English architects, and the fine effect of the colossal stained window at the altar terminating the vista, which was also favourable to external grandeur; though, with some contrivance, the same degree of the latter quality could, I believe, have been had along with the French internal arrangement.

While Salisbury is designed for length, Amiens is designed to look great by greatness of parts and greatness of treatment. If Salisbury Cathedral looks long through being in many parts or bays, so does a street by consisting of a great number of small houses; but it does not for that reason look great. Salisbury is not so great a building, though it looks longer than Amiens, the interior of which strikes at first sight, not so much with an appearance of vastness as of a noble simplicity and majesty, arising from greatness of scale, greatness of module, and grandeur of treatment. Salisbury Cathedral might have been less adapted to give effect to scenic processions, but it would have been a greater building, finer and more meritorious architecture, had it been designed on the principle of Amiens.

I have heard the French cathedrals accused of being shapeless outside, though beautiful within; but if a building is designed for greatness of internal effect, and truthfully constructed, it cannot be shapeless outside. For the same reason that Amiens is a much finer building inside than Salisbury, it must be finer outside, for being of greater parts and nobler proportions, as I have already asserted it to be in speaking of composition.

But there is one great interior in the *East* where these principles are illustrated, which I must not omit to notice,—St. Sophia's, at Constantinople,—which is in every respect one of the most noble and beautiful apartments on the earth,—satisfactory in every respect. Most other great buildings—Egyptian or Greek temples, or Mediæval cathedrals—were more or less a series of great avenues, but this is one great apartment, with every concomitant of greatness and beauty. It is better proportioned than that of St. Peter's, at Rome, and than the centre compartment of St. Paul's, at London, or of any Gothic cathedral; while it has as much unity, with infinitely more variety and picturesqueness than the Pantheon at Rome. Such an assemblage of grand and beautiful architectural features — domes, semi-domes, colonnades, arcades—harmoniously combined in one great interior, appears nowhere else. It is the most beautiful covered area on earth, and had it been united to a worthy exterior—an exterior in keeping with it, and expressive of it—the whole would have been the greatest building in the world, the acme of architectural perfection. But it is married unfortunately—as is St. Stephen's, Walbrook—a Venus to a Vulcan—to an exterior monstrosity.

This quality of breadth inheres to a great extent also in the architecture of Sicily, which, like the clime that blends the Oriental palm and aloes with the orange tree, the fig, the olive, and the vine, unites and blends the architecture of the East and West in the most artistic and beautiful manner. But in no buildings is it better illustrated than in many of the domestic buildings of the Middle Ages, with their open-work fronts or arcaded loggias, so favourable to true architectural beauty, and reminding us of the Chester rows. Among these I would particularise the Venetian Gothic palaces. I am not referring particularly to the ducal palace, in which building I for one can see nothing of the surpassing beauty that some can see, or affect to see, in it—but to the Cà d'Oro, Foscari, and one or two others. In these I see exceeding grace and beauty. The Cà d'Oro Palace carries to the extreme of grace and delicacy the open-work principle which charms us in many more northern lands, of which the house of Francis I. and some of the Hôtels de Ville are examples, among which the façade of the Hôtel de Ville at Arras deserves special mention.

Composition and light and shade are the most important parts of architectural design. Many of the greatest buildings of the world are, like the oratory of Demosthenes, unadorned; and the rest owe their impressiveness, not to their sculptural decoration, but to their great proportions and beautiful and harmonious forms—their graceful contours and provision for breadth of light and shade.

It is in this lies the power of architecture, and not in its sculptural ornament, or hair, like Sampson's strength. Sculptural decoration belongs to the department of detail, and is analogous to diction in poetry, and colour in painting, and cannot therefore be anything but a minor element of art, which seems to have been the impression of the greatest minds that have written on architecture — Goethe, Schlegel, Lamartine; the latter speaks of St. Peter's "swelling out in the proportions of a god," and designates it an apotheosis in stone—a monumental transfiguration of the religion of Christ." "Pull down the pictures," he adds, "carry off the statues—it is still the house of God."

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In a general survey and contemplation of great edifices and styles of architecture, my strongest impulse is always to speculate on or scheme out what I conceive to be the utmost possibilities of architectural grandeur and expression, and what the future course of architecture is likely to be in England and among European nations generally. Michelangelo's conception of architectural greatness was the enthronement of the Pantheon, which itself combined the two most graceful of classic features, the colonnade and dome on the Temple of Peace; and it was a perfectly legitimate combination. The qualities of certain buildings combined in one would make the ideal of architecture; and the noblest and most perfect building would be one combining the chaste columnar beauty and elegance of detail and decoration—all that so captivates us in the Greek architecture, with as much as possible of the soaring composition of the Middle Ages. My own conception of the grandest possible style of architecture, or of that turn or modification of the classic style, applicable to great monumental works, is a combination of trabeation and arcuation, or a blending of the vertical and horizontal principles.

Than such a pure classic style, by which I mean not a florid Italian, but a pure Greek or Græco-Roman style, I can imagine no style of

architecture more suited to enshrine the pure simple worship of Christianity. No architecture expresses, to me, or stands so well in my mind, as a type of moral truth and purity, as these pure forms of an architecture in which purity and beauty of form give the charm and merit independently of ornament. The beautiful volutes of the Ionic capital of the Erechtheium is to me a striking image of chastity or purity of soul. Freely treated—that is, combined with arch and dome, not Romanised—no style would produce a more truly solemn and sublime, and, at the same time, perfectly adapted interior, than pure Greek architecture: and in a paper published in the *Builder*, now nearly twenty years ago, I expressed these views. They were opposed to the prevailing notions of the time, as they are to the present ones, and I know no one who holds exactly similar opinions to myself on this point; but it is some conclusion and support to find the French architects animated but by one spirit in working out a style, though not applying it at present to ecclesiastical purposes, from the self-same elements.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

ACCORDING to the report of the council which is to be read at the annual meeting, May 2nd, the total number of members, of all classes, is now 517. The receipts, in consequence of many liberal contributions to the library fund, have been exceptionally large, and the president, Sir William Tite, M.P., with a munificence which has always marked his connexion with the Institute, has recently contributed 100*l.* to the "Travelling Fund." This sum, together with accumulated interest on the fund since 1866, amounting in all to 127*l.*, will now be invested in guaranteed Indian Railway Stock. The subject of the Voluntary Architectural Examination has received renewed attention. The rules of the examination have undergone a revision, which, while it has modified them in certain details, has left unaltered the general principles of the scheme, as drawn up in 1866. The council, however, consider that the labours of the examiners and moderators ought not to be unremunerated, and they have therefore recommended that fees should be paid in future to all the gentlemen who may consent to undertake those arduous and responsible duties.

In accordance with the resolutions passed at the closing general meeting of last session, a list of books recommended to the architectural student has been drawn up by Professor Lewis and A. Waterhouse, Fellows, and has been appended to the rules lately re-issued. A form of certificate has also been prepared, and will be granted to those candidates who may pass, or have already passed, in the respective classes of proficiency and distinction. A preliminary examination has also been devised for such students as have been at least one year in an architect's office.

The labours of the Professional Practice Committee have of late been chiefly directed towards the consideration of a request made by the London Builders' Society, that the Institute would aid that society in drafting certain conditions of contract, which it was proposed should be annexed to specifications and accepted in professional practice. This request has led to several meetings of the committee, and interviews with the London Builders' Society. The details resulting from the discussions on this subject have, however, been so numerous and diverse in their bearings, and have evolved such varied interests and responsibilities, that the Professional Practice Committee consider it expedient to limit their endeavours to a mere definition of those specific heads under which the conditions of a contract might advantageously be framed. As soon as a conclusion has been arrived at on this point, it will be made known.

The attention of the Council having been drawn last Session to the Fine Arts Copyright Consolidation and Amendment Bill, then before the House of Lords, a petition on the subject, praying that the copyright contemplated in the Bill might extend to architectural designs, was drawn up by the council, and presented to their lordships by the Earl Stanhope, in June last.

The past session has witnessed a steady accession to the Library and Collection. Since May, 1869, ninety-one volumes have been presented, besides forty pamphlets, and transactions of societies, exclusive of the regular donations of English and foreign periodicals. The money donations of 1869 amounted to 106*l.* 12*s.* Twenty volumes, including "Dugdale's Monasticon," Coste's "Monuments du Kaire," and other useful works have been purchased.

It will be remembered that last year the president contributed a liberal sum to the library fund, for the purchase of a series of drawings illustrative of ancient ecclesiastical decorative painting. The council have now the pleasure of stating that several of these drawings have been completed by Mr. George Wardle, the artist entrusted with this commission.

Adverting to the general prospects of architecture, and the condition of public works in England, the council notice with satisfaction the progress of many important structures recently erected in London, but view it as a matter of regret that, at a time of severe distress among the building operatives, the Government have not proceeded with certain works recognised as requisite for public service, and the execution of which is called for by the public voice. The delay thus occasioned must necessarily have a baneful effect in other directions, and especially on the encouragement of architecture by corporate bodies and private patrons, who are indirectly, but no less surely, influenced by the example of the State.

The report concludes thus:—

"It is sincerely to be trusted that whatever principles of public economy may be advocated by her Majesty's Government, they may not degenerate into parsimony (which too often entails a heavy burden of expenses on the future), and that whatever course may be adopted under the present system, those who are in authority will not forget that to encourage the arts of a great empire is not only to administer to its intellectual enjoyment, and to develop its taste, but also to foster its science, its industry, and commercial welfare."

A list of the subjects for which medals and prizes are offered is published, and may be obtained at the rooms of the Institute.

BRIGHTON AND ITS FUTURE.

THE *Brighton Times*, good-humouredly commenting upon our recent remarks in this direction, says:—

"We have relied too much, the *Builder* tells us, upon the favour and countenance of the fashionable world—an unstable foundation to build upon. We want more local trade and manufacture, to give us solidity. We want more back-yard accommodation and drainage—more attention from the local authorities to sanitary matters—more ladies to transform themselves into ministering angels to the poor. We want more uniformity of style, and less presentment of plaster, in our buildings—more opening for the centre of the town, 'by a few wide leading thoroughfares.' We want old streets to be widened, and new streets to be not made narrow. Lastly, we want a 'little more shipping interest,' by means of a port or harbour, to be constructed at or near Brighton. To this last consideration, by the bye, it has often been objected that fashion and gentility would never stand a rough intermixture with sailors and shipping-masters; and that, to make a port here, would be to scare away all that is elegant, and refined, and well-paying, from amongst us; but, be that as it may, we happen to know of a speculative gentleman—and it will perhaps gratify the *Builder* to be informed of this—who is actively contemplating in his mind's eye such a harbour, and hoping to mature the vision into a reality."

LECTURES ON MUSIC.

IN pursuance of the scheme of instruction in science and art for women, which has for some months been working well at the South Kensington Museum, under the direction of a committee of ladies, assisted by the Hon. and Rev. Francis Byng, Mr. Arthur Sullivan commenced on Tuesday last, in the Lecture Theatre of the Museum, a course of twelve lectures on the Theory and Practice of Vocal Music, to be continued on successive Tuesdays and Fridays.

As preface, he stated the main object he had in view, namely, not to transform his auditors into Nilssons and Trebellis; but, by elucidating many of the difficulties of the science of music, to make them more appreciative and intelligent critics and listeners, both of the compositions and execution of others; the intelligent auditor doing as much to raise the standard of criticism and assist the progress of art as the inferior performances, often heard, lower and retard them.

Though the taste for music has increased so visibly among all classes, as may be seen by the innumerable concerts given at the present day,—150 to 1, fifty years ago,—yet the actual study of music as a science is more neglected. A fine voice is more appreciated than good singing. The average standard of instrumental performances is extremely high, and one aiming at becoming a virtuoso has greater difficulties to overcome than formerly. In connexion with the study of harmony, he quoted from a work of Mr. Thomas Horley, a madrigal writer of the fifteenth century, a dialogue between a distinguished diplomatist and a friend, the former finding himself so disconcerted at his inability to take part in a vocal production at a reunion of the members of the cabinet, that he determined forthwith to study harmony. The lecturer drew an amusing analogy between this scene and a similar reunion of cabinet ministers of the present day. He deprecated the style of modern sacred music, instead of the grand old unimpassioned chants that left more expression to the sacred words than the jingling tunes in modern use, and paid a tribute to the monks of old as the fathers of harmony.

A choice selection of part songs has been made, to illustrate the next lectures, to be performed by the ladies attending them; and we feel convinced that much will be gained from the instruction of the able composer of the almost Handelian production, "The Prodigal Son."

THE ICONOGRAPHY OF WELLS CATHEDRAL.*

THIS is a subject replete with difficulty, although there is abundant matter on which to dilate. The task has been attempted by one of the great authorities of our age, now passed away, and he has set forth a most elaborate plan and detailed description of this work of art, and has attempted not only to describe the west front of Wells generally, and to set forth its leading characters, but he has attempted to assign to each tier of statuary its particular object, and to each statue its own particular character and name. This certainly was a grand attempt, and well worthy the great mind and the talent and taste of a highly gifted man; but on careful examination of his description, and reference to his authorities, we are compelled to admit that too much is the result of mere conjecture, and that he has exposed himself to the just criticism that has been passed upon his work by very competent authority. The elegant and highly-interesting and instructive work of Professor Cockerell, "On the Iconography of the West Front of Wells Cathedral," has been very learnedly and ably criticised by Mr. Planché, in the Journal of the British Archæological Association, for March, 1857. This appeared six years after the publication of Mr. Cockerell's work in 1851. The attention of the Somerset Archæological and Natural History Society was called to this subject at their meeting in Wells, in 1850, by our much-revered friend, Dr. Markland, who then read a paper on the subject, the notes of which had been furnished him by Professor Cockerell, and are given in the volume of the Proceedings of the Society published in 1851. The Professor's explanation of the sculpture is there given in brief, and some particulars are added by Dr. Markland. When the Archæological Institute visited Bristol in 1851 (July), one of the places visited was Wells, on which occasion Professor Cockerell gave an admirable discourse upon the sculptures, and those who had the privilege of hearing it will well recollect the impression it made, and the flood of light that seemed to be poured upon the history there set forth in stone (see Journal of Archæological Institute, vol. viii., p. 327). If many of the explanations were doubtful, or seemed to be far-fetched and fanciful, yet the whole discourse conveyed such a noble idea of the end and design of the plan, and grandeur of the subject, that a new and lasting interest was awakened which is now beginning to bear its fruit. I shall ever look back to that day as one of the most interesting and profitable I have ever spent.

The history and architecture of Wells Cathedral have so lately been given in a series of lectures by Mr. Freeman, which have been published in the *Bath Chronicle*, and are now being republished separately, and these so fully and ably detail all that pertains to its erection and historic interest, that my own observations may be

* From a paper by the Rev. Prebendary Scarth, read at the meeting of the Bath Philosophical Association.

strictly confined to the ornamentation of its west front and such statuary as is carried round the north-western angle. This is supposed to be the work of Bishop Jocelyn, called also Jocelyn Trotman, not only Bishop of Bath and Wells, but said to have been also a native of Wells and partly educated there. He died in the year 1249, but his work was dedicated A.D. 1239, so that it was finished previously to that period, and is a noble monument of the work of the thirteenth century, *i.e.*, the earlier portion of the century. The episcopate of Jocelyn lasted thirty-one years after the settlement of the Glastonbury controversy, and over forty-two from his first consecration. The west front of Wells is in the same style of architecture as Ely, Lincoln, Salisbury, *i.e.*, Early English or First Pointed. The west front of Wells consists of a central portion (or nave with side aisle) and two side towers incorporated into the front. This arrangement gives great space for the display of the statuary, and the doors and windows are small and almost insignificant. This is totally different from the arrangement of some of the west fronts which are most distinguished for the grandeur of their design, as Amiens, where the portals are of huge dimensions, very deep, and filled with the statuary, which at Wells is distributed over the whole surface. The width of the west front of Wells is 147 ft., while that of Amiens is only 116 ft. This length of surface is broken by six buttresses, which are enriched with statuary in the front face and at the sides. The statuary may be divided into nine tiers, and these again into two divisions, north and south of the principal entrance, the north (or left hand) being the temporal side, the south (or right hand) the spiritual, according to Professor Cockerell's arrangement.

If we begin with the first or lowest tier, we shall find it, in the front face, almost entirely denuded of statuary. We can therefore only restore these conjecturally; there are sixty-two niches (all but two vacant) which bear evidence of the work of the Iconoclasts of the sixteenth and seventeenth centuries, and of the Somersetshire riots in 1685, when, as Professor Cockerell observes, "the archives of the cathedral were miserably burnt." The loss of these probably prevents us ever recovering a record of what these figures represented. The only two remaining figures do not present sufficiently characteristic features to enable the antiquary to state confidently what the series may have been. The practice in the French cathedrals and elsewhere was to place the most sacred characters to the south. On the north and east face of the north tower the figures of this tier remain. They are male and female. The male figures are episcopally habited, but I will not venture to assign a name or attribute to any.

* * * *

When the west front of Wells was executed, learning, both human and divine, art and science, were in the hands of the few. The multitude of the people had to be guided by outward expressions, or by traditional and oral teaching. Painting and sculpture were used as books are now, and we learn from the Venerable Bede that in his day it was accounted a great acquisition when these could be exhibited in churches as a means of instruction. Sermons were preached to the people not only inside the churches, but outside, when the state of the weather permitted, and to have a series of illustrations at hand was no mean help to the preacher of that day. The subjects of the Old and New Testament, arranged by way of type and anti-type, are still to be found both in painting and sculpture in our churches, and we have a striking instance of this at Wells.

But in the west front of Wells, not only have we a series of sculptured subjects from the Old and New Testaments, but the mind is carried onward and upward, through the estates and degrees, the ranks and conditions of this world, to the dread day of judgment and its appealing realities; and we see, as it were, all ranks and degrees brought before the supreme tribunal! Here was a theme for devout contemplation before entering the portals of the church, or before engaging in its solemn services. These sculptures were not intended to be looked upon as mere matters of art or of idle curiosity, but were intended to suggest very solemn thoughts, and inspire such meditations as might make the mind more fitted for devotion inside the church. What may now appear to us rude and grotesque, produced no such feelings in the men of that day. They saw their own dresses, arms, habiliments, and other characteristics strikingly delineated. The king on his royal throne, the counsellor and senator in his robes of office, the lady in her flowing mantle, the supreme pontiff, or the bishop with crozier and mitre, the abbot, the priest, and monk, each in his peculiar habiliments, were at once known and recognised as realities of the time! To us they have become rather a matter of antiquarian interest than of actual life. They have lost their intended lesson, but become instructive in another manner. If we do not contemplate them with religious interest, we can contemplate them as full of the history of a bygone age, and this is rather the aspect in which we should regard them this evening. They are striking examples of the costume of that period (I mean the 4th and 5th tiers). On the south, or what Mr. Cockerell supposes to be the Spiritual side of the west front (divided into two parts by the principal entrance), are 42 statues in which the number of ecclesiastics predominates. We have also female figures, habited as nuns or as ladies of rank. On the north or temporal side we have a like number, but here the kingly and crowned figures predominate, and intermixed are the figures of queens or royal ladies: one (No. 58 on Mr. Cockerell's plan) holds a book in her hand; and with these we have also figures of bishops and priests. A similar intermingling of characters is carried round the north and east side of the N.W. tower, where we have females as well as royal and ecclesiastical figures. The number of statues on the north side of the west front, and on the north side round the corner towards the Vicar's Close, amounts to 68, and may be taken as very interesting illustrations of the military, civil, royal, and ecclesiastical costume of the twelfth and early part of the thirteenth centuries. Eighteen are crowned kings, eight are crowned queens, seven armed knights, fifteen are male figures without crowns —nobles or princes, and nine are females, four mitred ecclesiastics, thre without mitres; some are defaced.

"The female regal costume [says Mr. Planché] is represented with as much variety as it is capable of. On the north side of the second buttress stands a Queen, holding in her right hand a book; she wears the long robe, or super tunic, falling in folds over her feet, and with the ample open sleeves so characteristic of the twelfth century, the tight sleeves of the kirtle appearing on the left arm, which is raised in the lace of her mantle. Her head and neck are enveloped in the vest and wimple, worn by females of all ranks at that period, and which afterwards became by its retention a distinctive portion of the conventual habit."

I instance this statue as an excellent example of the dress of the lady of rank of that period. Of the seven armed knights, which are exceedingly illustrative (says Mr. Planché) of the military costume of the twelfth century, three are in the west front, and four in the north-west tower. Five are in complete mail, with the surcoat without sleeves, and bear the long Norman shield, unsculptured with armorial bearings. It would be very desirable to ascertain, if possible, whether any device was ever painted on these shields. That many if not all the statues were painted is very probable, as patches of blue, vermilion, and gold, are still stated to be discovered in the niches, and of all portions the shield was most likely to be so ornamented. Nothing could assist so materially to fix the actual date of their execution, as well as to arrive at some fair knowledge of whom they were intended to represent, as the discovery of such ornamentation. If they were executed under the direction of Bishop Trotman, heraldry had at that period become a science. It is precisely the date at which rolls of arms first appear, and if these warriors were meant to represent historical personages they would most probably have displayed their armorial bearings on their shields, and perhaps their surcoats. In corroboration of this Mr. Planché instances the effigy of William Longuespée, Earl of Salisbury, in Salisbury Cathedral, which is of this period, and where the lions are sculptured on his shield and painted on his surcoat.

As the restoration of the canopies and niches of the west front is now begun under such excellent auspices, we cannot doubt that every pains will be taken to examine most minutely the details of each figure and every trace of colouring which may be left; and if, indeed, the series of figures could be found to be really historical, it would form one of the most, if not the most, valuable of historical records which we possess,—such a record, indeed, as any country may be proud of. At present it is only the intention to restore the canopies, niches, and columns which support the canopies, and the pedestals on which the figures stand, and to support the figure itself, where needed; but it may be hoped that where the figure itself is damaged, and where the design can be recovered, or the portion be exactly reproduced, the figure or the part may be restored. I speak now my own opinion; I do not wish to advocate any attempt to restore the whole, or to remove any portion that will stand; but I believe it will be found that many statues are now so far decayed, that unless they are strengthened, or the figures reproduced, they must soon perish, and some of the most interesting works of the thirteenth century be for ever lost. I do not think that the identical reproduction of a figure, while it may be truthfully restored, is its destruction. How few of our oldest monuments could have existed had they not been reproduced! About the year 1850 one of the statues fell; it was the one supposed by Professor Cockerell to represent Edward the Elder; in its fall it was dashed to pieces, and therefore its exact reproduction rendered next to impossible, and this may be the fate of others which may now be saved. Our very worthy and much lamented citizen, Dr. Markland, restored and replaced this figure. It had been drawn by Carter, and happily Professor Cockerell had also previously made a drawing of it; but in Carter's time the figure had already lost both arms. The work of reproduction was effected by Mr. Richardson, the sculptor, and as Mr. Planché, in his comment on these figures, pronounces no word of condemnation, I think we must admit that it is satisfactory, as any defect of costume or inaccuracy of representation would have been certainly noticed by him. Another figure was replaced about twenty years ago by Archdeacon Brymer. In writing to Dr. Markland on the subject of the sculptures, and noticing the fall of that supposed to be Edward the Elder, Professor Cockerell observes—"I grieve to hear of the fate of Edward the Elder, which is indeed ominous, as the founder of the Episcopal Church of Wells. I earnestly hope the fragments are preserved, and have not suffered much. It would be scandalous to leave it unrestored." Surely the heart of the Professor, as well as that of Dr. Markland, would have been gladdened had they foreseen the steps now taken to prevent any farther decay. I find a note in the proceedings of the Somerset Archæological Society, vol., 1851, which says, "It is earnestly hoped that the Dean and Chapter and the gentlemen of the county will come forward, and that a special subscription may be entered into for their preservation." This hope is now realised after a lapse of nearly twenty years. A strenuous effort has been made to carry out this object, and the best architectural knowledge has been enlisted in the persons of Mr. Gilbert Scott and Mr. Ferrey, the former of whom has issued his report and suggestions. The cost of the restoration of the west front will be from 6,000*l.* to 8,000*l.*, and happily the money already subscribed amounts to the former sum; so that we may trust, when all have come forward, an ample sum will have been raised to do the work in the best possible way.

In treating of the sculptures of Wells Cathedral something ought to be said of the state of art at the period of its probable execution. If the west front is the work of Bishop Jocelyn, it is of the age of Henry III., who displayed a taste for architecture, sculpture, and painting, and rebuilt and restored the royal residences and took special care of their decoration.

"In the thirteenth century the progress and enterprise which exhibited itself in all the arts, was equally developed in sculpture, and it was then historical and religious sculpture in great profusion attempted to rival works of classical antiquity. . . . The literary and poetic faculty, which in the twelfth century had been fostered by Henry Beauclerc and his accomplished and virtuous queen, now infused itself into the sister arts of painting and sculpture, and the knowledge of the Scripture imparted a dignity and authority to the works of those days which entitles them to our highest veneration and study" (see Icon. of W. F. of Wells, app., pp. 6, 7). At that period in this country art attained a merit which has never been duly appreciated. For example, the beautiful crosses raised by Edward I. to the memory of his Queen Eleanor appear to have been executed mostly by English artists (see "Archæologia," vol. 29).

We have, therefore, a noble example of the decorative taste of this period. If the west front of Wells cannot be quoted as a fine example of architectural design, it is unrivalled as a monument of sculptural skill. When contrasted with the west front of Amiens, we see at once its architectural shortcomings. We have no grand portals, of themselves the recipients of a series of sculpture, and capable of accommodating a considerable body of people, who could therein be taught the elementary truths of religion before

entering the church itself; but we have a much more perfect and complete display at Wells of the great verities of religion. The sculptures at Wells are not incumbered by apocryphal legends; but, where they treat of Scripture, represent Scriptural verities.

The sculptures at Wells are supposed to be the work of native English artists, or artists trained in this land. This fact will probably be more clearly brought out while the west front is in process of restoration; at all events, ample opportunity will be given for mastering the details of every figure, and, if needful, reproducing it. It may not be known to some here that a great work is being done at Canterbury. I have not been able lately to visit that most interesting cathedral, but a friend has sent me particulars of what is being done there. Many of the vacant niches have been filled with figures, where these had never before been placed, or, if placed, been destroyed. The south face of the porch and the eastern side of it have already been supplied with historical figures, and it is intended to carry on this work till the original design is perfected. Now, to accomplish such a work, the study of the Wells figures is invaluable. A list has been published of all those persons who have generously undertaken to supply figures, which are to be executed by Mr. Pfyffers, at a cost of 24*l.* each.

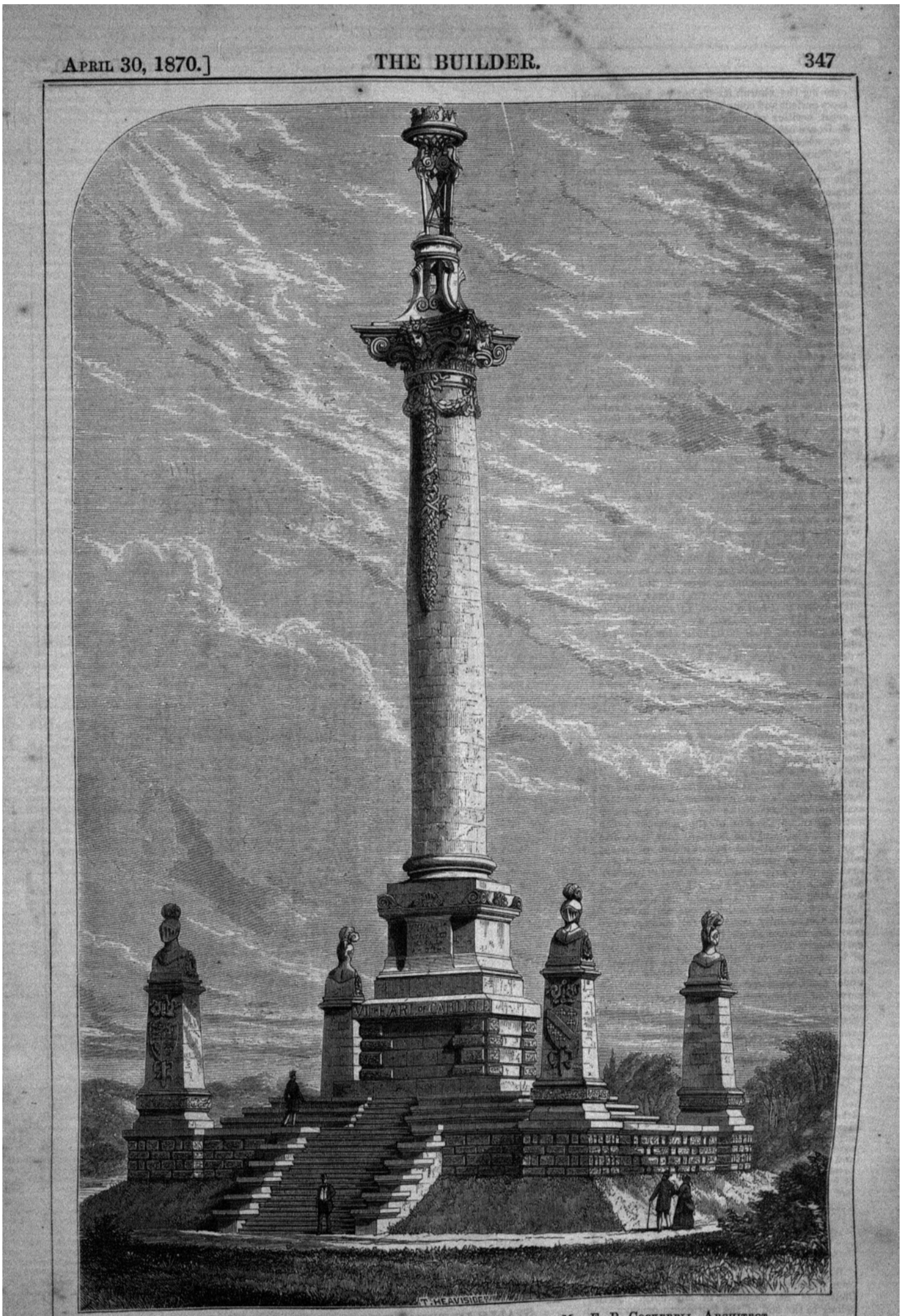
We believe that the day is past when any superstitious feeling could be attributed to restoring a work of this sort, or that it could lead any one away from the fountain of holy truth, or fix the mind in adoration of the work itself. Where a people have so long been accustomed to be taught from the written Word of God, and can now read that Word for themselves, and are taught to contemplate art for its own sake, or as a means of expressing reverential and devout feeling, or conveying historical ideas, there is little cause to dread a return to superstition or idolatry. There is, indeed, a very different lore to be gathered from a right contemplation of these works of what are sometimes called the "dark ages;"—dark, it may be, in some points, but certainly not in transforming into holy uses that which had been so sadly misused in heathen times. A very slight acquaintance with classic art shows us that the sculptor's chisel in the best days of ancient Greece and Rome was employed to delineate subjects either warlike, or voluptuous, or licentious; but when the chisel was transferred into Christian hands; when it was thought wise and good and devout to employ art no longer as a stimulant to passion or to licentiousness, but as a means to purify and exalt and spiritualise the feelings; then came forth the noble figures of the great and the good, the wise and the learned, holy men and holy women, and the embodiment of great religious ideas, instead of war, licence, and sensuality. The subjects of Christian sculpture are all great and ennobling and refining, instead of corrupting and enervating, and nothing, as it appears to me, shows the power and influence which Christianity exerted over society, more than the change which it wrought in art. In early and in Mediæval times it became a means of inculcating great religious ideas, instead of unholy passions. If this, art's glorious mission under the Christian dispensation, was for a time perverted and abused,—if the great power which sacred art had acquired over men's minds became perverted to superstition,—it has surely been chastised, and been chastened and cleansed of its errors and corruptions, and may, under good guidance, still be applied to great, and to useful, and to holy purposes. It was the opinion of our early reformers—Cranmer, Ridley, Redman, and other learned men (see "Necessary Doctrine and Erudition for every Christian Man," published by the authority of Henry VIII.),—that pictures and statues might be placed in churches, and ought not to be despised, but used reverently; and the injunctions of Queen Elizabeth and Edward VI. are directed against "monuments of feigned miracles." For the opinions of our leading divines and laymen on this subject, see Dr. Wilson's "Ornaments of Churches Considered."

CARVED STALLS IN GERMAN CHURCHES.

WE add to our examples of chancel stalls from German churches* a view of those in the Church of St. Catullus, in Moorburg. These belong to the end of the fourteenth century.

* See p. 45, *ante*, &c.

STALLS IN THE CHURCH OF ST. CATULLUS, MOORBURG.



CARLISLE MEMORIAL COLUMN, CASTLE HOWARD.—MR. F. P. COCKERELL, ARCHITECT.

THE CARLISLE MEMORIAL COLUMN, CASTLE HOWARD.

THE column of which an illustration is given has been erected by public subscription as a memorial of the late Earl of Carlisle, who, through a long life one of the most conspicuous and useful men in his county, is best known to the general public as Viceroy of Ireland, which high post he occupied for eight years. The committee appointed to carry out the memorial invited privately designs from four architects, and that of Mr. F. P. Cockerell was selected.

The column is erected upon Bulmer-hill, at the edge of the Castle Howard estate, about two miles and a half from the Castle, and facing the magnificent avenue which traverses the park, and about twelve miles from York. The hill, forming nearly the last descent from the wolds to the plain of York, commands a magnificent view of the country surrounding the city.

The total height of the monument, from the foot of the steps to the top of the gilt urn, is 110 ft.; and the diameter of the column, 7 ft. 4 in. The shaft of the column, though hollow, is without a staircase, as the height of the monument would add little to the extensive view enjoyed from the already elevated position. Access for repairs is provided by means of a wire rope inside. The four pedestals at the corners of the platform are surmounted by knightly helmets, and carry each on one face a sword and a shield, bearing alternately the arms of the Howard family and the Royal arms, in allusion to the viceregal dignity of the late Earl.

The materials used are, for the foundations and the face of the platform and the sub-pedestal of the column, Castle Howard stone of a reddish brown tint; the rest of the work being executed in Whitby white stone. The tripod is executed in terra cotta, cored and braced with wrought iron. The urn and flames are of copper, gilt. The work has been carried out by Mr. Bailey, of York. The carving and modelling of the tripod are by Mr. Kelsey, of London. The whole was superintended by Mr. Chick, resident agent to a neighbouring estate. The total cost of the works was 2,061*l*.

ST. MARY REDCLIFF CHURCH AND THE FREEMASONS.

THE Freemasons of Bristol having previously restored the external stonework of the Lady Chapel of Redcliff Church, have more recently contributed funds for handsomely paving the chapel and for decorating the vaulted ceiling. At the anniversary meeting of the Canynge Society, on the 21st inst., they mustered in force, and the Earl of Limerick, P.G.M., accompanied by Bro. W. A. T. Powell, D.P.G.M., and members of the Grand Lodge and of the other lodges of the province of Bristol, proceeded to the Lady Chapel, where they were met by the vicar (the Rev. Canon Randall), the Lord Bishop of Gloucester and Bristol, the churchwardens, and other officials of the parish of St. Mary Redcliff. Bro. J. R. Bramble, Prov. G. Registrar, read an address setting forth the part taken by the Freemasons of the province of Bristol in the restoration of the Lady Chapel and other parts of the sacred edifice, and concluding with the aspiration that it might shortly become perfect in all its parts, and the efforts for its restoration be crowned with complete success. The vicar made a suitable reply, and the Bishop of the diocese having thanked the members of the craft for the good work they had so materially aided, the company adjourned to a luncheon at the Royal Hotel, at which Mr. W. A. T. Powell presided genially.

Mr. C. S. Clarke, in the course of his report as hon. sec. of the society, read the following note from the architect, which serves to show what has been done during the past twelve months:—

"Brompton, April 9th, 1870."

My dear Sir,—I have received your request, on the part of the Redcliff Restoration Committee, that I should send you a memorandum of the progress of the works since the last meeting of the Canynge Society, and I hasten to comply with it. Pressure of occupations, however, forces me to be brief. The chief efforts have been directed to the restoration of the tower, and considerable progress has been made. The four turrets at the top—beautiful works—which, having become dangerous, had been removed, have been completely reproduced. Considerable advance, too, has been made towards the completion of the uppermost story of the tower. It is proposed that the clock shall be illuminated for night, and the clock-face, arranged with that end in view, is now being proceeded with. The parishioners and subscribers will doubtless be glad to hear that the works required in the chancel, so long neglected, have been taken in hand. The north and south screens have been restored, and the eastern termination, with reredos, is commenced. A fitting pavement for the chancel, and the lighting of the church generally, are works that should be immediately attended to when funds are available.

In the Lady Chapel a tile pavement, with marble steps, has been laid down at the cost of the Freemasons of Bristol, by whom the external stonework of the chapel had been previously restored. The same body, not unmindful of the connexion of the craft with the building-guilds of the Middle Ages, have also provided funds for the decoration in colour and gilding of the groined vaulting of the chapel, which will, it is hoped, be completed by the day fixed for the meeting.

Several additional stained glass windows have been set up with great advantage to the general effect of the church, and others are in progress that will call for note, especially one intended to fill the large window of the north transept as a memorial of Edward Colston, a name dear to Bristol.

I desire to mention, in conclusion, the continued devotion of Mr. William Rice to the work in hand, and to subscribe myself, dear Mr. Charles Clarke,

Your very faithful servant,
GEORGE GODWIN."

Mr. Sholto Hare and others took part in the proceedings. The sermon, which was preached by the Rev. R. J. Simpson, produced about 100*l*.

The decoration of the vaulting was the work of Messrs. Clayton & Bell; the pavement was executed by Messrs. Simpson & Co.; the corona was provided by Messrs. Hart & Co. Four of the windows are filled with stained glass (three by Wailes and one by O'Connor); one yet remains to be filled, and the panelled walls require to be treated with colour.

PHYSICAL COMMOTIONS.

ATTENTION having been turned, in rather a startling manner, to this subject by the tremendous manifestations within the last two or three years, every new indication is apt to be rather too carefully recorded, though, under ordinary circumstances, many might have transpired without particular notice. Making every allowance, however, for this, it does seem as if such commotions were much more frequent than usual; and we therefore present a new batch of them, collected within the last few weeks.

A letter from Trieste says that three shocks of earthquakes have been lately felt there. The town has suffered no damage, but some places in Dalmatia have suffered severely. At Clana, in the district of Volosia, 140 houses have been damaged and 37 destroyed. The population had to pass the night in the open air, exposed to a severe frost, for during the night fifteen shocks of earthquakes occurred. At one moment the village was in danger of being destroyed by two immense masses of rock, which rolled down from a neighbouring mountain.

Two distinct shocks of earthquake were felt in Kingston, Jamaica, on the morning of the 22nd of February, about seventy minutes or half an hour after midnight. They were unaccompanied with any of the phenomena usually attending such visitations. The motion seemed to be rather of a rotatory than an undulatory nature. The first shock was of very short duration,—about three or four seconds. Then, after a pause of about a couple of seconds, the second and more distinct one was felt, lasting about from ten to fifteen seconds. The entire heavens were overcast with dense black clouds. These earthquakes are becoming more frequent than welcome of late, according to the *Jamaica Morning Journal*.

The *North British Mail* states that a pretty severe shock of earthquake was recently felt at Comrie about midnight. The noise was like the rumble of distant thunder, and was heard by numerous people beyond Comrie. Slight shocks have of late years been pretty frequent, and they generally occur in peculiar states of the atmosphere.

The French Academicians have evidently an eye upon the commotions. At a recent meeting of the Academy, as reported in *Scientific Opinion*, amongst the correspondence of the day presented by M. Dumas was a paper relative to the earthquake which occurred at Ancona on the 8th of February.

Another communication was from the Peruvian Consul, stating that on the 7th of last December, at 7 a.m. and at 7 p.m., shocks of earthquake were felt in Peru, and were again repeated on the 28th.

M. Boussingault remarked, on this subject, that the volcano of "Copayan," after a long period of the most complete repose, had again become active. M. Boussingault was disposed to think that there is a relation of cause to effect in these two phenomena.

A curious phenomenon was witnessed last month at Malta. The sea suddenly rose two or three feet above its usual level, receded, and then rose in a similar manner a second time. This may have been occasioned by some submarine volcanic eruption in the vicinity.

New York was visited on a recent Sunday by an equinoctial storm of unusual severity. It is believed that many shipwrecks have been caused along the coast.

A Tripoli (Barbary) letter, in the *Levant Herald*, reports the fall of a monster aërolite in the neighbourhood of Mourzouk, weighing, it is said, 1,800 okes, nearly 5,000 lb. This must, of course, be only a rough guess; but if it be even tolerably approximate, the mass is one of the largest meteoric bodies on record. Be its actual size what it may, the Minister of Public Instruction has ordered the fragment to be sent to the capital, where it will probably be placed in Mr. Gould's Museum.

The enormous size of recent sun spots—16,000,000 square miles—is naturally reviving speculations as to the nature of such phenomena.

A strange statement has appeared in more than one paper to the effect that astronomers are perplexed and astonished by a new and, it is supposed, magnetic emanation from the sun, which is said to have reached nearly half way to the earth's orbit; but there is a very doubtful look about the statement.

Since all the above was prepared, about a fortnight ago, the following new collection of incidents has been made.

The New York papers of the 3rd publish the following:—"San Francisco, April 2. At 11·50 a.m. to-day, a sharp, wicked shock of earthquake occurred here. Its duration was six seconds; the direction from south-east to north-west, and the motion vertical. There was no damage to life, limb, or property; but there was intense excitement. The streets swarmed with people in a moment. It was raining at the time. Prior to the shock the barometer was seen to fall very rapidly."

A Panama despatch says, much damage has been done in the vicinity of Quito, in the province of Imbabura, and in many other places, by earthquakes. On one occasion continued shocks were felt from noon till morning of the next day, when a shock of extraordinary violence occurred.

"The inhabitants," says the *Panama Mail*, "were terrified, and rushed from their dwellings, fell on their knees, and implored for mercy. During the latter part of the day thirteen distinct shocks were felt in Jipijapa, each one being accompanied by a violent wind-storm. Several times since many shocks have taken place, but none created great alarm until March 2nd, when there was one of unusual severity at about mid-day; but the most terrifying one of all took place on the 3rd, when, between Pedernals and Cabo Passado, the earth was seen to open and emit a hillock of stones from 30 ft. to 40 ft. high. Behind or near the spot where this occurred stood an earth-hill about 60 ft. high, which suddenly and entirely disappeared. Around the base of a hillock is a circular pond of salt water, and for a long distance surrounding that the earth, which before was hard and solid, has become soft and spongy. The inhabitants of the locality have become positively terror-stricken, and no inducement will take them within a very long distance of the spot."

The St. John's (New Brunswick) *Telegraph*, of March 18th, describes an extraordinary phenomenon which took place in the harbour of that city on the previous day. Early in the morning a strange noise, similar to that accompanying the earthquake on the 22nd of October last, was heard by the residents near the harbour. The tide was nearly down, and though it was quite dark it could be seen that the old ferry, which should be several feet above water, had vanished. Messrs. Littlehale & Coram's wharf had nearly disappeared: a piece about 20 ft. by 70 ft. broke off and settled squarely down into the water. A frontage, several hundred feet in extent, running from the line of the demolished wharf towards the breakwater has gone down, leaving a steep embankment, and less than 100 ft. from it, into the harbour, in the place where the old ferry-landing was. On this spot soundings were made, and where the old ballast or reefer was the day before rising above the water 8 ft., were found 6 fathoms of water, showing that even so near the shore as that, the bottom had settled just 32 ft.

The American papers state that unusually severe weather has prevailed in many parts of the country. The *Buffalo Express* of the 17th of March says that the two previous nights rivalled anything that was ever known for inclemency. There was great suffering among the mountains of Utah.

In South America, too, there have been terrible hurricanes and floods; and both in the Pacific and Atlantic many ships have been lost; so that the prediction of a correspondent in the *Builder* of the 19th March as to disturbances

about that time already appear to have been pretty well fulfilled.

In reporting the great storm at Buenos Ayres of the 9th ult., a local paper says:—"People in Europe will read with amazement of men and horses drowned in the streets of Buenos Ayres, of parlour floors giving way, of sailors being washed ashore on planks, or their corpses collected on the beach." Either in this or a subsequent storm,—the severest that was ever known,—100,000 sheep were destroyed by floods. The rainfall is described as having been the most dreadful that ever was experienced in Brazil.

Under the title of "Something the Matter with the Sun," a letter from the Rev. F. Howlett, who is well known as an astronomer, appears in the *Times*, in which he says of the "unusually disturbed condition of the solar surface" that the total area of the whole of the spots (on April 3rd) cannot be estimated at less than three billions of square miles. He has never during a period of twenty years seen so great a disturbance. The spotting of the sun, however, is periodical; but on this occasion the spots have been far more numerous and extensive than on any known previous occasion. They have now mostly disappeared.

The latest announcement of physical commotion is under date 23rd April, from Calcutta, to the effect that a violent shock of earthquake had occurred at Dacca.

THE SOAP AND ALUM PROCESS FOR BRICK OR STONE WALLS.

ALTHOUGH much has been said on this subject in the *Builder*, we are every now and then requested to repeat particulars of the process, which is quite simple. The proportions are, three-quarters of a pound of mottled soap to one gallon of water; this composition to be laid over the brickwork steadily and carefully with a large flat brush, so as not to form a froth or lather on the surface; the wash to remain twenty-four hours to become dry. Mix half a pound of alum with four gallons of water. Leave it to stand for twenty-four hours, and then apply it in the same manner over the coating of soap.

In one case the soap seems to have given a bluish tint to the red bricks, which may have arisen from some peculiarity in the soap.

Strong evidence has been given in our pages of the advantage derived from this process in various localities. We are bound to say, at the same time, that in a case within our knowledge, where it was applied to a stone front (the stone very absorbent), it did not succeed. It must be applied in dry weather, and carefully.

A NEW PROMENADE FOR BLACKPOOL.

THE inauguration of the new promenade, together with the opening of a new entrance to the north pier, and the unveiling of a colossal drinking-fountain in Talbot-square, was celebrated on Easter Monday.

The sea-fence consists of a sloping breastwork, pitched with stones on a thick bed of clay puddle, the interstices between the stones being filled in with asphalte or cement concrete. The slope of the breastwork is curvilinear, and one in four on the average. Next to this breastwork, and running the entire length of the town, are the promenade and carriage-drive. The promenade, on an average, is seven yards wide; it has an even surface of asphalting, and is separated from the carriage-drive by a line of side stones. For the purpose of obtaining space between the houses and the sea for this promenade and carriage-drive, a part of the shore has been regained by an embankment along South Shore, and along the northern district, extending round Bailey's Hotel, by an iron viaduct, which projects over the sea fence. The floor of the viaduct is formed with Mallet's patent buckled plates, filled in with concrete, and finished with asphalte. The plates are fixed to rolled joists, and carried on cast-iron columns, which are screwed down into the solid. The carriage-drive, twelve yards wide, runs parallel with the promenade the entire length, and is formed of shingle, clay, and macadam. It has a footway along the frontages of the adjoining property, and the whole is drained and lighted with gas.

The works, which were designed and carried out by Messrs. Garlick, Park, & Sykes, civil engineers, Preston, were constructed in three sections, two of which were given to Mr. Robert Carlisle, contractor, Blackpool, and the third went to Mr. Henry Chatburn, of Preston. The ironwork was supplied by Mr. Joseph Clayton, Preston.

The works have cost upwards of 60,000*l*. They comprise, amongst others, 135,000 cubic yards of earthwork, 15 acres of stone pitching in the sea fence, 5½ miles of piling and planking in the sea fence, 21 acres of asphalting and cement concreting, 560 tons of wrought and cast iron-work, 40,000 square yards of carriage-road, with the palisading, railing, draining, and lighting.

YE DREAMING BUILDER.*

"UNTO Saint Austin will I build a shrine!"
And with this thought the holy Prior is fill'd;
The glow of ardour brightens in his eyne
And quickens all his soul. Much is he skill'd
In all the lines and cunning crafts which build
The massive piles of Norman masonry;
But one thing greater in his mind is will'd,
A lighter plan of structure doth he see,
Where strength and beauty blend in perfect harmony.

On this he dreams as the sweet even-tide
—Meet hour for dreaming—mellows all around;
And from his quiet cell with listless stride,
And eyne down bending on the grassy ground,
—No thought of earth, no sense of sight or sound,—
He wanders forth, and in his dreams arise
The tapering spire with golden Roode becrown'd,
—A guide the watchful seaman oft shall prize—
A finger to lift up the emblem in the skies!

And in the woods the stately trees assume
The forms of rounded shafts, whose slender grace
Delights the sense, and meeting boughs become
High vaulting groins, in which his mind can trace
How intersecting lines may well embrace;
And through the opening of the leaves the light
Of glowing sunset falls upon his face;
Then suddenly there rises in his sight
Wrought mullions fill'd with glass with colours rich bedight.

Now, in his dream he treads on holy ground,
And in the solemn chanting of the wind
He hears deep, mellow voices sweetly sound
(As under lofty domes the ear may find,
When godly monks, with voices all combined,
Chant o'er their vespers low at even-time).
"Lo! here," he cries, "where God doth show my mind
The way to build, the lofty spire shall climb,
And tongues shall sing His praise from vesper until prime."

"Our blessed Ladye shall a chapel have,
Arcaded round with many a reedy mould;
And Wilfred, with his cunning skill, shall carve
The story of her life, and shall be told
In stone how He, by Judas basely sold,
Gave up His Life, and died upon the tree;
How, in His loving arms He doth enfold
The humble heart, ne reeks of what degree
Or birth he be who craves His blessed charity."

"This seeing, shall the poor oppressèd hinde
Take heart again and lightly bear his wrong;
This seeing, shall the baron bring in mind
How glorious is mercy in the strong!
How gracious deeds to gentle birth belong,
And crest the helmet with a brighter ray
Than honour won in lists, or deeds among
The hurly-burly of a feudal fray,
For mercy springs in God, and pride is born of clay!"

JOHN RODDIS.

CONSISTENT TENDERS.

SIR,—I send you with this another pretty specimen of contractors' tenders:—

For new roads, &c., on an estate at Staines, for Mr. E. Woodroffe. Mr. R. Gover, surveyor:—

Turner & Cole	£385	10	0
Harding	295	0	0
Strickson	290	0	0
Jones	268	13	0
Clarke	243	0	0
Mapleson	229	15	0
Goodair	227	10	0
Coker	212	0	0
Smart	178	0	0
James & Taylor	165	0	0
Sheeter & Co.	155	0	0
Rogers	151	0	0
Bloomfield	150	0	0
Hancock	145	0	0
Adis	139	0	0
Ayres	137	3	9
Cook	125	0	0
Young	125	0	0
Porter	95	0	0!

The works comprise about 1,770 ft. formation of new roads and footpaths (40 ft. wide), inclusive of stripping off turf, levelling, wheeling, and filling inequalities in same; 1,600 cubic yards gravel metalling to be dug, screened, carted a quarter of a mile, and spread; 50 ft. lineal 2 ft. barrel culvert, 9 in. brickwork in mortar (about 1½ rod); 72 feet lineal oak wrought post and rail fence, four times painted in oil, and keeping in repair six months.

What does it mean? Such tendering must make the name of contractor a bye-word and reproach! W.

* It has often occurred to me that the bold leap from the heavy Norman work to the graceful Early English must have been a source of infinite delight to the great men who worked out that transition; and this is the idea I have tried to convey in the following little sketch.—J. R

"POST AND PAN HOUSES."

IN the Assize of 1189, London, *panna* is used for the wall-plate laid upon a party wall of stone to receive the posts of an upper story of wood. See Hudson Turner's "Domestic Architecture of England," p. 19:—"And he who giveth the land shall have the clear moiety of the wall, and put his panna upon it, and build."

In Yorkshire, *pan-piece* is still wall-plate.

In Lancashire, a *pan* is a purlin.

In France, *panne* is purlin. See "Viollet-le-Duc," under that word, and under "*charpente*." Also under "*dallage*," he uses "*pannes de pierre*." *Pan*, in French, is another word altogether, as may be seen in the same author under "*Pan de bois*." W. R. CORSON.

TIMBER STACKS AND THE PROPOSED NEW BUILDING ACT.

A MEETING of timber merchants, builders, and others, has been called for (this) Friday, the 29th inst., to consider the 111th clause of the Bill, which runs as follows:—

"It shall not be lawful for any person to erect, rebuild, place, or replace a building built of wood for the purpose of floor-cloth manufacture or a pile or store of cut wood or timber, on the ground or on the top of a building or elsewhere, nearer to a street than the buildings forming the general line of building therein, or nearer to a building in different occupation than 25 ft., unless in every case there is a proper wall or fence or party wall or party fence wall (as the case requires) to separate such wooden building, or wood or timber, throughout its whole height, from the street and from every adjoining or neighbouring building."

It is quite right that the parties whose interests would be affected by the clause should give it consideration, and obtain for themselves as much latitude as may safely be afforded; but we have too often pointed out the danger of the course now pursued in many timber-yards, and urged the necessity of supervision, for any of our readers to suppose that the principle of the clause will find an opponent in us.

SEWAGE FARMING.

WILL you allow one who has given considerable attention to the "sewage question" to explain his views on the subject, in the hope that the following statement may at least lead to impartial investigation on a most important point connected with this subject.

That irrigation is the best and most profitable mode of disposing of sewage is, I think, now fairly admitted by all who have investigated the matter in all its bearings. This being admitted, it is established, beyond a doubt, that Italian rye-grass and mangold wurzel are the two most productive and profitable farm crops that can be grown from sewage. Italian rye-grass must, under any circumstances, always form a large feature in sewage farming, because it is essential to have a large area, upon which the overflowing sewage can at all times be applied, and Italian rye-grass is the only crop which will admit of this constant application. Mangold wurzel is, however, essentially the irrigation farmer's true crop. Its yield is immense. Fifty tons, at least, to the acre may be grown, to a certainty. The facility of transplanting (where plants fail), in consequence of moisture at hand, renders a mangold crop a positive certainty in sewage farming.

The difficulty hitherto with mangold has been, not to grow it, but to know what to do with it. Where a large breadth of mangold is grown, it would be difficult to feed at a profit, more especially as all dry food would have to be purchased, and equally difficult to sell it at a remunerative price. Demand and supply regulate price in all things, but more particularly in an article whose bulky nature confines its distribution to a limited area. The mere fact of such a large supply being known to be on the market would bring down the price to a minimum.

By my process this difficulty is entirely obviated. I convert the mangold into a cake, resembling linseed cake in appearance, in which state it is as easily transported as any other artificial food throughout the kingdom. It will keep perfectly good for years: linseed cake deteriorates in a few months. Most carefully authenticated trials have proved that it is equally fattening as the best linseed cake.

Let us look at the profits of manufacturing it. Fifty tons of mangold will make 6 tons of cake. Analysis and feeding experiments have proved this cake to be worth 10*l*. per ton; 1 acre, therefore, will give a gross profit of 60*l*. Now

as to cost of growing the roots, securing the crop, and converting it into cake. I will at present omit the question of rent. The cost of cultivating an acre of mangold, and securing the crop may be put at 6*l*. This is high. The cost of converting 50 tons of mangold into cake is 7*l*. 4*s*.: total cost per acre, 13*l*. 4*s*., against a gross profit of 60*l*., to be divided between rent and profit.

I do not ask those interested in the sewage question to take for granted one word I have said, although I pledge my word as to the *bonâ fides* of all that I have asserted. All I ask is that they should thoroughly investigate the subject.

I have every faith in the correctness of the analysis as given by Dr. Voelcker, and of the feeding experiments, which have been and are still being carried on.

I am prepared to offer every facility for the most crucial test that this food can be subject to. I fully believe that the manufacture of mangold cake will be the keystone of success to sewage farming. HUGH SMITH.

METROPOLITAN DISTRICT RAILWAY.

AT Thursday evening's sitting of the House of Commons, the third reading of the Bill for a line by Queen Victoria-street to the Mansion House was passed by a majority of 20 in a full house. This settles the matter in so far as the House of Commons is concerned, but it is believed that the City authorities will repeat their opposition in the House of Lords.

BELLS AT ST. PAUL'S CATHEDRAL.

IN the patronage bestowed on the Great Bell, it is rather remarkable that his friends should have paid little or no respect to the single service bell which hangs in the north-west tower. I would therefore request to be allowed to send you the statement which has just been worked off for my forthcoming "Great Tome of Belles Lettres." I believe it is in the main correct; if not, I shall be thankful to any courteous reader who will do me the favour to prove that I am in error, and so the press shall be corrected.

H. T. ELLACOMBE, M.A.

"We come now to the great bell in the south-west tower of St. Paul's Cathedral, London, inscribed 'Richard Phelps made me, 1716.' It is 6 ft. 10½ in. in diameter, as lately measured by Mr. Tyssen, and also by Messrs. Warner; the weight is 5 tons 4 cwt.* The key note of the bell is A flat, but the sound when heard at the greatest distance is E flat, or a fifth above the key note.

This bell is never used except for the tolling of the hour, and for tolling at the death and funeral of the Royal family, the Bishop of London, the Dean of the Cathedral, and the Lord Mayor should he die in his mayoralty.

There is a bell in the north-west tower, used for the daily service, inscribed 'Made by Philip Wightman, 1700.' The diameter is only 49½ in., and 3½ in. thick. This may have been cast from the metal of the bell in the clock tower opposite Westminster Hall gate, which, before the Reformation, was named 'Edward' after the Royal Confessor; subsequently to the time of Henry VIII., as appears by two lines in Eccles's 'Glee,' it was called Great Tom, as Gough conjectures, by a corruption of Grand Ton, from its deep sonorous tone.

On August 1, 1698, the *clockard*,† or clock tower, was granted by William III. to St. Margaret's parish, and was taken down, when the bell was found to weigh 82 cwt. 2 qrs. 21 lb., and was bought at 10d. per lb., producing 385*l*. 17*s*. 6*d*. for St. Paul's. While being conveyed over the boundary of Westminster, under Temple Bar, it fell from the carriage; it stood under a shed for some years, and was at length recast, with additional metal, by Philip Wightman, December 15th, 1708. There is an engraving of that bell in 'Antiquarian Repertory,' 1st edit., vol. ii., p. 284. This was probably the second bell, the inscription stating it to have been 'brought from the ruins of Westminster.' The engraving is from a drawing originally in the possession of Dr. Ducarel.

A further account is given in vol. ii. of the same work, p. 162 ('Antiquarian Repertory'), by which it appears that the original bell was first hung for the clock at St. Paul's, but it was soon cracked and new cast, but with such bad success that it was cast again; the writer was at the lowering of it, and the inscription on it, copied from the old bell, ran thus:—

Tercius aptabit me Rex Edwardque vocabit,
Sancti decore Edwardi signantur ut hora.

As for the name of *Tom*, now so universally given to great bells, the writer, 'M. Y.,' considers it a Reformation name, suggested by the tone, and anything to get rid of a name given by Roman Catholic dedication or baptism. The name appears in a catch by Solomon Eccles:—

'Hark! Harry, 'tis late, 'tis time to be gone,
For Westminster Tom, by my faith, strikes one.'

It was the Westminster *Great Tom* which the sentinel (John Hatfield) on duty at Windsor Castle, during the reign of William III., declared to have struck thirteen instead of twelve at midnight, and thus cleared himself of the accusation, by the relief guard, of sleeping upon his post. The story is told of St. Paul's bell: but the cathedral had no heavy bell until the above grant by King William, who died 1702. The circumstance is recorded in the *Public Advertiser*, Friday, June 22, 1770."

* *Builder*, March 10, 1855.

† See an engraving in Beverell's "Les Délices de la Bretagne, 1707," vol. iv., p. 840.

VICTORIA PATENT OFFICE PUBLICATIONS.

Two Australian Blue Books have been issued by the Registrar-General of Victoria, Mr. W. H. Archer. One is a volume of "Patents and Patentees, from 1854 to 1866, both inclusive." The other is the second volume, for 1867.* They were compiled from specifications lodged in the Patent Office attached to the Registrar-General's Department at Melbourne. The number of patents in the first volume is not stated, but there are considerably more than 200 small folio pages in all, and the publication does not contain the abstracts of specifications, with drawings, which are not yet issued. Part I. of the first volume, contains a long list forming the "subject matter, index of patents applied for, and patents granted from August, 1854, to the end of 1866," and is of a very miscellaneous description. Part II. is an Alphabetical Index of Patentees, and Applicants for Patents of Invention, from August, 1854, to the end of 1866. There is also a key of terms and phrases in titles, &c. The second volume is arranged much in the same way, but contains also a "Chronological Index of Patents applied for, and Patents granted, 1867." The actual number of patents applied for during 1867 was 99. Of these, 51 were granted, the rest having been refused, or else allowed by the applicants to lapse.

Considering the long period between 1854 and 1866, there are not many patents for building and building materials. Six pages contain them all; but there are others scattered about here and there. Bricks, bridges, cements, floors, girders, roofs, &c., form the chief subjects patented, and there are some as to artificial stone. Of gold-digging patents, of course there are plenty. In the second volume there are only five patents under the head of building and building materials. These relate to bricks and tiles, cements, roofs, and windows. Of patents under the head of food, there are a good few; but that brings us to another compilation by Mr. Archer. This is a pamphlet titled "Abstracts of English and Colonial Patent Specifications relating to the Preservation of Food, &c." This pamphlet has been compiled from original documents or their printed copies, lodged in the Patent Office, Melbourne. Considering the interest which the subject of food-preservation has been exciting in Victoria, this is a well-timed publication; and it must have cost a good deal of labour in condensation and compilation. It contains brief abstracts of numerous patents for the preservation of food by various processes; with a list chronologically arranged, and index of patentees' names. It has also illustrations of apparatus.

SCHOOLS OF ART.

The Birmingham School.—A lecture has been delivered, in connexion with the local Art-Students' Literary Association, by Mr. W. D. Raimbach (the head master), the subject being "Schools of Art." The lecturer gave a brief sketch of the various schools of art in which he had studied, taught, and visited; and, among the latter, he described several of the principal Continental schools, and spoke in favour of the system they adopted in drawing from casts and from nature, in preference to the English system of drawing from flat copies. In the École de Beaux Arts, in Paris, and most of the French and other Continental schools, the admission was entirely gratuitous, and great facilities were afforded for teaching design, as applied to industrial purposes. At Nuremburg, in their antique studies, the students made the figure life-size, which we were prevented from doing chiefly from want of room. The students were also taught wood-carving, die-sinking, engraving, and many other branches of art-workmanship; but he thought that, in original design, they were excelled by the students of the Birmingham School of Art.

The Leamington School.—The report of the Local Philosophical Society says:—

"The council have to announce a serious loss, in the resignation of the head-master of the school of art, Mr. Charles Ryan, who is compelled to give up public teaching on account of the delicate state of his health. The council cannot allow Mr. Ryan to resign the management of the school of art, which he has so long and so successfully conducted, without expressing, on this public occasion, a hope that his health may be soon restored, so that he may be enabled in future to devote his comparative leisure time to the more lucrative pursuit of independent work in his profession as an artist, in which they heartily wish him success."

* Published by authority. John Ferres, Government printer, Melbourne.

CHURCH-BUILDING NEWS.

Child's Wickham.—A restoration of the parish church is about to be effected under the direction of Mr. G. Hunt, of Evesham, architect. The church has been sadly neglected, its roof is almost coming down, and its walls are bulged and much dilapidated. The chancel belongs to Sir Thomas Phillipps, and the work of restoration will probably only proceed as far as the chancel arch. The works comprise the taking down the greater part of the nave, and rebuilding the same; new open timber roof, pitch-pine seats, oak pulpit and reading-desk, tile floor, new chancel step, new ringers' floor, new entrance doors, and repairing tower from parapet to base. Mr. Frith, from Coventry, better known as "Steeple Jack," will repair the spire. These works will probably cost nearly 1,000*l*., over 800*l*. of which have been obtained. The stone is from the neighbouring quarries, excepting windows and roof corbels of Bath stone.

Watford.—The work of lowering and levelling the churchyard has been completed, and the restoration of the church will now be commenced. It is intended that the chancel and aisle shall have battlements, and that skeleton doors shall be placed at the west, north, and south porches. Mr. Gibson's contract, amounting to 4,500*l*., has been accepted. The estimated total cost of restoration is 5,000*l*.; the cost of levelling the churchyard, &c., 234*l*. Upwards of 1,000*l*. are still required. It is intended to erect an iron church in the churchyard, between the church and the free school, for the performance of divine service during the restoration, for the carrying out of which it is believed the parish church will have to be closed for a period of eighteen months or two years.

Datchworth.—The church here has been re-opened. The architect, whose designs for the restoration have been carried out, is Mr. A. Blomfield, and the work has been executed by Messrs. Lawrance & Son, of Datchworth-green, builders. The floor of the edifice is paved with Staffordshire tiles, except that portion upon which the feet rest; this is boarded, whilst the seats are of stained wood. On the north side of the church a new window has been put in, corresponding with one at the east end of the aisle. The other windows have been newly glazed, and the stone framework put in repair. The original roof of the church has been retained, and a course or two of new colouring has given freshness to the appearance. A spire, with a 54 ft. rise, has been added to the tower, the upper story of which is new to the set-off; it has four new windows of 22 ft. square, and the spire roof contains 16,000 oak shingles, and has four new dormer windows, which were contributed by three of the workmen engaged in the building. Much improvement has been made in the interior of the tower, by the removal of two floors, as well as an old gallery in the front.

Chelmsford.—It has been resolved at a public meeting, to put the fabric of St. Mary's Church into a state of repair. It is proposed to expend 4,000*l*. if subscriptions can be got. A committee has been formed.

Harrogate.—The foundation stone of All Saints' Mission Church has been laid at Harlow-hill. The site was given by the Earl of Harewood, and also land for a burial ground. The architects are Messrs. Shutt & Thompson, Harrogate and Leeds; the design is in the Continental style of Gothic; and the edifice will contain nave, transept, and chancel, organ-chapel, and vestry, the roof being open timbered, with a tower surmounted by a spire. The church is intended to seat 217.

Wivelsfield.—The old Sussex church of Wivelsfield has been restored and re-opened. The restoration of the ancient part has been confined to putting it into repair, but as additional room was required, a north aisle was added, harmonising generally with the early work, reinserting the ancient features. The chancel has been extended to the east, to the proportion which it ought to have been in the fourteenth century. A large window has taken the place of the early triplet, which is more suitably placed at the east end of the new north aisle. During the repairs of the roofs, it was discovered that the south

aisle in the fifteenth century had a nearly flat roof covered with lead; the decayed ends of the principal beams were found embedded in the wall. In later times, when repaired, it was raised for the sake of economy, and covered, like the nave roof, with Horsham stone, the sale of the old lead probably covering the cost of the repairs. During the progress of the restoration, on removal of the gallery, Hebrew texts in distemper were discovered upon the southern and western walls of the nave, over which later Early English texts had been introduced.

"Laus Deo." "Floreat Ecclesia."

The work has been carried out under the superintendence of Messrs. Slater & Carpenter. Their plans were commenced by Mr. Stanbridge of Lindfield, and completed by Messrs. Fuller & Longley, of Turner's-hill. The total cost of the work will closely approach 1,400*l*.

Longdon.—After undergoing various alterations and repairs, the parish church of Longdon has been re-opened for divine service. The whole work has been carried out from the vicar's own drawings. Mr. Blomfield, the architect, was first consulted. He sent drawings which involved a cost of more than 2,000*l*. This plan included the removal of the nave and the erection of a chancel, in character with the tower, but the rebuilding of the nave was left till some future day. Mr. Griffiths, of Eldersfield, was the builder engaged. The sum expended was about 650*l*.

Ancoats.—The church of St. James-the-Less, the erection of which has recently been completed, in Newton-street, Ancoats, has been opened for public worship. The new church, which is a plain brick structure, has been erected at a cost of 3,700*l*., towards which 3,200*l*. have been subscribed.

Margaretting.—The church of Margaretting has been re-opened for divine worship, after having undergone a restoration, which has been carried out by Mr. Brown, of Bocking and Chelmsford, under the superintendence of Mr. Chancellor, of Chelmsford. The walls, arches, and columns have been divested of layers of paint and whitewash. The roofs, of the nave, aisle, and chancel have also been restored by the removal of a ceiling of laths and plaster. A gallery, which spanned the west end of the nave, has been removed, and has enabled the architect to reveal a pointed arch, in brickwork, which opens into the tower, the ground floor of which can now be used when necessary. The wall at the east end, which was partly of brick, and into the interstices of which the ivy had insinuated itself, has been rebuilt in rubble, at the cost of Mrs. Straight, widow of the lay impropriator. The windows throughout have been fitted with new glass. Only the stonework of the window in the north wall was restored; all the others were in so dilapidated a state that new stone was required. The tower and spire, of timber, have been restored in oak shingle, fixed with copper nails. All the strong timberwork of the interior of the tower has been preserved. A mass of high-backed pews has given way to rows of open benches, in stained Norwegian deal. The cost of what has already been done, irrespective of those parts of the work the expense of which has been privately defrayed by Mrs. Straight, is about 940*l*., viz., 630*l*. for the repair and restoration of the roof, walls, tower, &c.; 200*l*. for benching and restoration of the chancel-screen; 200*l*. for chancel fittings; and 50*l*. for subsidiary improvements. The sum already obtained and promised is 840*l*.

DISSENTING CHURCH-BUILDING NEWS.

Wike.—The foundation stone of a new Wesleyan chapel has been laid at Wike. The new edifice, from the designs of Messrs. Andrews, Son, & Pepper, architects, Bradford, will be in the Gothic style, 53 ft. long by 25 ft. wide, with an internal extreme height of about 30 ft. The chapel stands on 610 square yards of land, facing the Bradford and Huddersfield turnpike road, and is estimated to cost about 700*l*., inclusive of land. Entrance is gained by a doorway in front, having a circular window in the gable, and the other end of the building is octagonal, lighted by three lancet windows, and by double mullioned windows at the sides of the building. The whole of the pews will be open, and a place is left for an organ at the east end. A small vestry will accommodate the minister, and the chapel will be heated by hot air.

Leigh.—The foundation stone of a new chapel for the Wesleyan Methodists of Leigh has been laid. The site is in King-street, about 200 yards from the existing chapel. The building is estimated to cost about 10,000*l*., towards which sum the subscriptions already promised amount to about 7,000*l*. The design of the building is Gothic, in the Early French style, and it will have a tower and spire, rising to the height of 150 ft. The chapel is calculated to seat 960 persons, including ample provision for free sittings and accommodation for school children attending public worship. The architect is Mr. C. O. Ellison, of Liverpool; and the builders are Messrs. Burroughs & Sons, Liverpool.

Liverpool.—The foundation-stone of a new chapel for the Wesleyan Methodists of the Seacombe Circuit has been laid at New Brighton. The chapel is designed in the style of architecture which prevailed during the first half of the thirteenth century, adapted to requirements. The plans were selected in a limited competition, the successful competitor being Mr. Henry H. Vale, architect, Liverpool. The contractors for the works are Messrs. J. & T. Mason, of Egremont. The ground-plan will be in the form of a Greek cross, the arms of the cross forming the transepts to the main body of the building. The chapel is to be terminated at the end beyond the pulpit by a large semicircular apse, with sedilia, having shafts of polished Irish marble, above which there will be traceried windows filled with stained glass. As the levels of the site fall considerably from south to north, the architect has taken advantage of this to place a lecture-hall and school-room beneath the northern end of the chapel. The main entrance is by a large porch underneath the tower, which will be placed on the west side of the church. This tower, if erected, will rise to the height of about 80 ft., and will be finished with a saddle-back steeple. The materials used in these buildings are to be principally local grey bricks, with white stone dressings, and ornamental carvings and bands of parti-coloured brickwork. Inside, all the roofs will be open timbered. The chapel will hold about 350 people, and the school-room 300.

Ilkley.—A Wesleyan Chapel has been erected and opened here on a site between the Wells-road and the Wells Promenade. It has a school and class-room underneath, and the minister's house is in the rear. The style of architecture is Early Decorated Gothic. In the principal front of the chapel there are three entrances, and over the centre one a four-light window is placed, the framework of which is of geometrical tracery. At the south-west angle of the building stands a tower, containing a staircase to the gallery, provision being made for a spire; and a corresponding staircase, in the form of a circular transept or porch, occupies the south-west angle. The sides of the building have two large three-light windows with traceried heads, surmounted by gables; and besides these there are three two-light windows with traceried heads. The committee have not seen their way to the erection of the spire. It was intended to be 120 ft. in height, but the tower has only been carried up a portion of the distance, and covered with lead. The length of the chapel inside, inclusive of the vestibule and organ chamber, is 78 ft., which could be increased by the absorption of the house to nearly 100 ft., and the width is 41 ft. The galleries are supported by light iron columns extending to the roof. The roof is formed in the centre by curved ribs, and rises at the crown to a height of 36 ft., leaving a sufficient space above the plaster ceiling for ventilation. The seats are all open benches. The whole of the woodwork of the building is stained and varnished. The chapel is lighted by means of two pendants, and brackets placed along the walls, all of which are of wrought iron, illuminated. The windows are filled in with fluted glass. The chapel, with its galleries, affords accommodation for upwards of 600 adults. The schoolroom underneath the chapel is 41 ft. by 36 ft., and the basement contains besides two class-rooms, the minister's vestry, a room for the heating apparatus, and appliances for tea meetings. The total cost of the building executed is about 4,500*l*., inclusive of the site, and the completion of the spire is estimated to cost 500*l*. The architects were Messrs. Andrews, Son, & Pepper, Bradford; and the contractors,—for the mason work, Mr. Richard Crabtree, Bradford; joiner work, Messrs. Waddington & Mason, Burley; plumber work, Mr. Wm. Hunter, Bradford; slater work, Mr. John Tattersall; plasterer, Mr. Thomas Bailey; painter, Mr. Henry Briggs; ironwork, Messrs. Rishworth & Thornton.

Manchester.—A new Congregational Chapel has been opened at Patricroft, near Manchester. The chapel is situate at the junction of Franklin-street and the Crescent, opposite Liverpool-road. It is in the Italian style of architecture, and is built of bricks. The main entrance is from a portico in front, with an entrance on each side, which lead into a vestibule, from the ceiling of which depend two one-light gas suspenders. There are two large sunlights in the ceiling, and three-light brackets projecting from the walls on each side, and at the ends of the building. The chapel is estimated to seat 700 persons, and the total cost will be over 4,000*l*. Mr. Southern, of Salford, was the contractor; and Messrs. Woodhouse & Potts, of Oldham, were the architects.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Tunstall.—The new chapel in Sun-street, Tunstall, has been opened for public worship. The chapel is a Gothic building, capable of seating 450 persons. It is 66 ft. long by 25 ft. wide, and has an open-work roof. The altar and reredos are of wood, and the seats are open. The principal materials employed are red and blue bricks, with stone dressings. The chapel and clergyman's house adjoining have cost in erection about 1,000*l*., and the land on which they stand was purchased for 630*l*. Messrs. Goldie & Child, of London, were the architects; and Messrs. Bennett & Cooke, of Burslem, the builders. The enrichment of the altar was done by Mr. W. Harvey, of Cheadle.

Lewes.—The Roman Catholics at Lewes have for some time assembled for worship in a private house in the Priory-crescent, Southover, but they have lately purchased the residence of the late Mr. William Cotton, in St. Ann's, opposite the eastern entrance of the parish church; and the east wing being pulled down, an appropriate site was secured, upon which a little chapel has been built, connected with the other portion of the property, in which the Rev. H. Wood, the priest for this district, is in residence. The architect was Mr. Crisford, of Eastbourne, and the builder, Mr. Fisher, of the same town. It is a plain building of yellow brick, with red facings, and window-frames and dressings of Bath stone. The interior of the chapel, exclusive of the chancel, is 36 ft. long and 25 ft. wide, and has sittings for 150 persons. The chancel is 18 ft. long and 15 ft. wide, terminating in an apse. The interior is lighted by ten windows. In the front,—the south side over the doorway,—is a large window, and on each side of the doorway are narrow lancets. On the eastern side are three windows, and the chancel is lighted by four windows of crimson glass. The sittings are open benches, and the walls are tinted. In the chancel there is some carving, by Mr. St. Clair, of Lewes, the first carver in wood who has been established here for some centuries. The corona lamp hanging from the centre of the chancel was presented by the congregation. The altar cross, of enamelled brass, was manufactured by Messrs. Hardman & Co., of Birmingham. The brasswork generally was supplied by Messrs. Burns & Co.

SCHOOL-BUILDING NEWS.

Worcester.—The parishes of St. John and St. Clement have commenced operations for the erection of infant schools, and workmen are now employed in laying foundations for the same contiguous to the existing school buildings in each parish. For St. John's a site has been obtained in a field on the right hand side of the Bromyard-road, just beyond the toll-gate. The site is 105 ft. square, and will be enclosed by a brick wall. Within this space, standing back from the road, will be the school, presenting to the front a pointed gable with wings. The principal school-room will be in length co-extensive with the frontage—that is to say, 48 ft. The entrance will be by a porch built at one of the ends. Behind this room, which will be 22 ft. in width, there will be two class-rooms, each 20 ft. by 14 ft., and the intermediate space is to be covered over, and will be useful as a playground in wet weather. The height from the floor to the wall-plate will be 14 ft., and to the top of the pointed roof in the centre about 35 ft. Behind the porch, which will be 9 ft. by 7 ft., there will be a book-room, 7 ft. by 6 ft. The building will be of brick, with white stone dressings. Provision has been made for ventilation,

and the school will be heated in cold weather by means of hot air. Mr. Perkins, of the cathedral, is the architect; and Mr. Warner, of Malvern Link, the builder. In St. Clement's parish the new infant school is to be built on a space adjoining the present schools, hitherto used as a playground. It is somewhat irregular in shape. The architect is Mr. Ernest A. Day. The front wall will be close up to the line of Church-walk, and the entrance will be at the end near to that by which access is obtained to the existing schools. A space of 9 ft. at that end will be walled off to provide the porch and a cloak-room, and the remainder will be the school-room, the dimensions of which will be 47 ft. by 20 ft. The roof will be an open one, the interior height being 12 ft. to the wall-plate, and 28 ft. to the apex. The dressings of the building are to be of stone. Messrs. Joseph Wood & Sons are the builders.

Books Received.

"PALESTINE Exploration Fund: Quarterly Statement, No. 5. January 1st to March 31st, 1870. Society's Offices, 9, Pall-mall East." These quarterly statements become more and more interesting, and the one under notice excels all previous statements in that respect. Besides the general progress, and the Moabite stone, with an illustration, it gives an account of temples in Cœle-Syria, the summit of Hermon, the rock tombs of El Medyeh, and various other interesting matter.——"Report on the Means to be adopted for permanently and beneficially Disposing of the Sewage of the Borough of Leicester. By Mr. Baldwin Latham, C.E. (Spencer, printer, Leicester)." Mr. Latham's scheme for irrigation at Leicester, of which we have already spoken, is here reported on. He estimates the cost of the proposed works as follows:—

Proposed high-level intercepting sewer to irrigation area 5 ft. by 3 ft. 4 in....	£9,500	0	0
22 in. iron pipe for present pumping engines, with sluice valves, &c., complete	4,000	0	0
Laying down 650 acres of land with all culverts, &c.	7,000	0	0
Alteration of existing engines	500	0	0
Sewage extractors and buildings	2,000	0	0
Making a total of	£23,000	0	0

The total annual expenses are estimated at 6,312*l.*; and the total annual value of the produce at 9,750*l.*; leaving a net profit of 3,300*l.*——"Report of the Sanitary Committee of the Borough of Nottingham for the Year ending December 31st, 1869. (Allen, printer, Nottingham)." From this report it appears that the annual rate of the mortality for 1869 was twenty-three deaths to 1,000 persons living. Latterly, the town has been becoming more unhealthy. The increase of dwellings built below the flood level in the meadows is deprecated. The report is signed by the chairman and vice-chairman of the committee, and by Mr. W. Richards, the sanitary inspector. Two useful tables, one of meteorological observations supplied to the Registrar-General by Mr. M. O. Tarbotton, C.E., F.M.S., &c., surveyor to the corporation, and another on rainfall, also by Mr. Tarbotton, are appended to the report.——"Report on the Maritime Canal connecting the Mediteranean at Port Said with the Red Sea at Suez. By Capt. Richards, R.N., F.R.S., Hydrographer to the Admiralty, and Lieut.-Col. Clarke, C.B., R.A., Director of Engineering and Architectural Works, Admiralty. February, 1870." This report has just been issued. The general conclusions to which both officers come are favourable to M. de *Lesseps's great undertaking. With reference to* Port Said they observe that, though incomplete as a harbour, the rate of accumulation of the deposits which are carried eastward from the Nile is so slow that any practical inconvenience to navigation from this cause may be considered remote, and, when it arose, might easily be remedied by an extension of the breakwater. Of the canal they say that most of the physical difficulties which, it was anticipated, would operate prejudicially on it, have proved to be fallacious. They state that, for all steam-vessels, or vessels towed, ranging between 250 ft. and 300 ft. in length, with 35 ft. beams, and a draught of 20 ft., it will be a convenient highway; but for the transit of larger vessels special arrangements, such as are made on a single line of railway, should be enforced. They then give calculations to show the advantages to England which the canal will offer over the route to the East by the Cape; and selecting Galle as a standard of comparison in point of distance common both to India and China, they show that the difference in favour of the canal is 5,135 miles, equivalent, in point of time, to thirty-six days. Taking a vessel of the *Volage* class as an illustration, they find that the special cost of sending her by the canal, including all charges, and the extra coal which would probably be consumed, would be 895*l.*, to be placed against a saving of thirty-six days, leaving out of consideration the wear and tear of a voyage round the Cape; and they accordingly think it would be desirable to send all small or moderate-sized vessels through the canal. The widening of the canal they consider an essential to its final success, but think the present company are not likely to carry this out. They point out the difficulty in the way of doing so while traffic is going on. Appended to the report are maps and numerous sections of the canal. We may here remark that an interesting example of the facilities to trade and traffic presented by the Suez Canal has just been afforded by the last voyage of the *Danube* steamship from Bombay to Liverpool with 4,000 bales of cotton. She sailed from Bombay on February 12th. Bales of the cotton arrived at mills in Huddersfield on March 25th, and on the 29th yarn manufactured from it were sent out by the *Danube*, on her return voyage, in forty-five days from her departure from Bombay. The voyage by the Cape usually averages 100 to 120 days.——*Science Gossip*, Nos. 63 and 64. (Hardwicke). This periodical sustains its interest as a monthly medium of interchange and gossip for students and lovers of nature.——"First Quarterly Part of the Family Friend." This is a new household journal of a superior description, to which Mary Howitt, Mrs. S. C. Hall, and other known writers contribute. It is well illustrated, and is intended to aid in superseding the pernicious literature which is now finding its way to the homes of England.——We get a paragraph from the current number of *The Quiver*:—

"If we have attained any social standing, or made a little money, we shrink from apprenticing our sons to any handicraft. We would rather send them to starve in an overcrowded profession, or to earn a scanty pittance as clerks, than let them 'sink' into working men, although as carpenters or coopers, builders or engine-makers, they might soon earn three times as much as a clerk, and hope, by industry and economy, to become masters and employers. They may work as hard as they like at their sports,—at cricket, at boating, at gymnastics,—but directly hard muscular work earns bread or wages, it is voted low, ungenteel, degrading. This absurd prejudice has never yet found a congenial soil in the East. To this day, for instance, among the Turks, a handicraftsman often rises to offices of state, and now and then to the very highest offices. And even in the Sultan's seraglio, I believe, all the young princes are taught some handicraft, in order that, if misfortunes should befall them, they may have the means of earning their own bread. Among the ancient Eastern races this sensible manly custom was more prevalent than it is in modern times; and in no nation was it more strictly observed, or more honoured in the observance, than among the Jews."

Miscellanea.

Society for the Encouragement of the Fine Arts.—On Thursday, the 21st inst., Mr. Henry O'Neill, A.R.A., gave a lecture on "The Influence of Art on Civilisation, Music and the Drama, and the Influence of Fashion on Art." From the influence of music on art he proceeded to that of the drama, which he considered gave the clearest insight into the moral and intellectual being of a nation. He regretted the present lavish expenditure upon dramatic trifles, the taste for dramatic realisms that destroyed all scenic illusion, and the vicious sensationalism that degraded the stage. The remedy which he suggested was an efficient censorship of the drama, such as existed at Athens in the time of Phrynicus. Mr. T. R. S. Temple said that English dramatic art had rather improved than declined of late, and that Dr. Westland Marston and Mr. T. W. Robertson must be excepted from the general condemnation of dramatic authors; whilst Mr. Sadler attributed the decline of the higher forms of dramatic art, in part, to the incompetency of actors.

Antill's Stench-Trap.—This patent stench-trap, with Stidder's Patent Lock Grate, is a trap whether the lock grating be on or off. It is made from pig lead, and is perfectly smooth inside; can be easily cleaned out, and can be soldered to a lead pipe, or fixed where glazed pipes are used. It is recommended for the top of waste pipes in cisterns.

The Kist-Vean of Wendron, Cornwall.—One of the most interesting spots in this district is the summit of a circular pyramidal hill, which lies to the east, and within a mile of Wendron church-town. Here is a curious cave or kist-vean, on the highest part of the hill, surrounded by a circular inclosure of earth and stones. The *Cornish Telegraph* thus describes it:—"Discovering a small path sunk 2 ft. below the surface, I followed the direction it led to, and presently found myself in an underground chamber, perfectly square, with the walls very evenly and regularly built of stones, snugly built together without mortar or cement. These stones were generally of one size nearly, though one upright and thin slab was 5 ft. long by 4 ft. wide. On measurement, I found the walls to be 5 ft. 9 in. high and 8 ft. across. The doorway was remarkably narrow,—1 ft. 3 in. across and 5 ft. 9 in. high. The roof of this building is one flat rock of granite, 10 ft. in length and 8 ft. 6 in. in width, averaging 1 ft. in thickness. This is supported in its position by the upper stones which form the walls. On the exterior is an artificial barrow heaped up against the wall. It appears to have surrounded the whole cave at one time, when the doorway was blocked up. At the north-west corner of this room is a curious recess, 2 ft. each way, and very systematically arranged. This, when viewed from the summit, appears not unlike a chimney, but its original purpose cannot be determined. [Was it a ventilator?] Within the memory of the oldest natives of this locality there has not been current a single legend, not even the remotest tradition, which in any way decides the primitive use of this solitary object."

Value of Land in the City.—Some plots of land in Queen Victoria-street, City, the new thoroughfare from the Poultry to Cannon-street, have been let, at the Auction Mart, by Messrs. Foster, of Pall-mall, by direction of the Metropolitan Board of Works, on building leases for terms of eighty years. Lot 1. The plot on the north-east corner of Queen Victoria-street and the Poultry, with frontages to each, amounting together to about 150 ft., and containing a superficial area of about 2,352 ft. There are two houses on this plot, in the occupation of Mr. Goode, tobacconist, and Mr. Brown, tailor, who are both under agreements to quit at a month's notice. This plot was eagerly contested, and was ultimately knocked down to Mr. Wheeler, of the Poultry, at the price of 2,400*l.* per annum. Lot 2. The plot adjoining the preceding, westward, with a frontage to the Poultry and another to the new street. The portion next the Poultry is in the occupation of Messrs. Wheeler & Co., and is subject to a lease (6½ years), but possession of the portion of the plot facing the new street can be had immediately. This plot was disposed of to the same person at 850*l.* per annum. Lot 3. The plot on the south side of the street, near the Mansion House, having a superficial area of about 6,296 ft., with a frontage to the new street of nearly 105 ft., a frontage to Charlotte-row of nearly 95 ft., a frontage to Bucklersbury of about 86 ft., and a circular frontage to the Poultry of about 20 ft. This lot was knocked down at the price of 6,400*l.*, but not sold, being under the reserved price fixed upon by the Board of Works.

The Royal Society's Conversazione.—Sir Edward Sabine gave his second *conversazione* on Saturday night, the 23rd, at Burlington House, Piccadilly, and numerous objects of interest were exhibited, including, by permission of her Majesty, some beautiful drawings by Leonardo da Vinci, Michelangelo, and Raffaelle; and an interesting ancient MS. from Abyssinia, the subject being "Discourses on the Virgin Mary:" each page of the vellum is emblazoned in colours. *Natural History was illustrated by the* marvellous series of echinoderms, sponges, and foraminifera, illustrative of deep-sea life, dredged by Dr. Carpenter; by M. Tegetmeier's singular living examples of the development of the Mexican axotyl into a salamandroid amphibian; and Dr. Palmer's very nice drawings of surface animals from the China Sea and the Indian and Atlantic Oceans. Mr. Haviland's valuable and instructive maps of the distribution of diseases excited considerable interest.

Preservation of Stone.—M. Betincourt writes to us from Boulogne, asserting that he has discovered a means of promptly staying the action of the atmosphere on limestone buildings susceptible of absorbing water. We are so often told this that we need something more than mere assertion.

A "Royal Amphitheatre" for Brighton. A party of enterprising gentlemen purchased the Old Circular Bath, which forms the break in the Marine-drive at the Junction-parade. This, in four days, they have got converted into an amphitheatre, and opened to the public. The remodelling was done by a well-known contractor, Mr. Blackmore, and was superintended and carried out by his son, Mr. John Blackmore, jun. Within the limits of the old bath, a ring of 37 ft. in diameter, surrounded with four rows of seats, covered with crimson cloth, has been made. On the north side, where the bathers' rooms formerly stood, have been erected a promenade and some private boxes. Its seating capacity is estimated at 600. A commodious bar has been erected in the lobby to the original entrance to the baths, and as Clarendon mansion has also been purchased, it will most probably, before long, be fitted up as a hotel or club. The panelling of the dome has been decorated by Mr. Blaker, the other decorations having been executed by Mr. R. Bonner. Round the base of the cupola runs a circle of jets, serving to illuminate the ring, and nearly the whole place. It is to be hoped that in this rapid conversion all due care of the public safety has been taken.

East Grinstead.—The Moat Church, which has been built by Mr. E. Steer, of East Grinstead, from his own designs, at a cost of 1,000*l.*, raised by voluntary contributions, has been opened for public worship. The church is intended to be conducted on the Free Church principles, and in accordance with the Congregational form and order. It is situated upon a portion of the Moat Estate, at the junction of the Moat-road, within a few minutes' walk of the railway station, and is built in the Early English style of architecture, with native sandstone, in random courses, scapled quoins, rubbed window jambs and mullions, and roofed with slates; it has a tower with a stone spire on the north side, about 70 ft. high. The interior consists of a nave and side aisles, timber-framed clearstory, with side lights supported on iron columns. The eastern end terminates with an apse and vestry; and at the western end over the lobby is a gallery, which is reached by stairs in the tower ascending from the lobby. In the tower is hung one of Vicker's patent steel bells. It is estimated that the church will seat 400 persons.

Sanitary State of Monmouthshire.—The state of some parts of Monmouthshire, as regards sanitary arrangements, is reported to demand serious attention. The want of privy accommodation, which prevails to an extent that will scarcely be credited, the defective drainage, and the proximity of pigstyes to dwelling-houses have done just what might be expected. Pontnewydd and Cwmbran, villages between Newport and Pontypool, have suffered frightfully from typhoid fever. Blaenafon, a town numbering some 8,000 inhabitants, is in a deplorable state; and measles are carrying off the children at the rate of six or seven a day. Such was the number of deaths there last week that it is computed that the death-rate had risen to the frightful figure of 163 per 1,000, instead of the usual proportion of about 22 per 1,000.

Roots in Drains.—Mr. Crabtree writes:—"Some root fibres have been taken from the water-pipes laid for supplying Redcar with water. The most bulky one filled up the 5-in. glazed earthenware pipe as compactly as a plug of wood could have done, so that no water could pass it. We found a great many pieces of smaller growth. They appear to be all of one character, and are probably the roots of some elm trees which are growing not far distant from the pipes, and would first insinuate themselves in microscopic lines into very minute openings, and then swell, spread, and ramify to the extent shown." A knowledge of this circumstance may be useful.

Kent Archæological Society.—At a meeting of the council of this society, held on Monday, the 11th inst., at Chillington House, Maidstone, the Earl Amherst, president, in the chair, several preliminaries were settled as to the annual congress of the society, to be held this summer at Sittingbourne. After the meeting many of the members inspected the remains of the Roman villa on the estate of Mr. G. E. Sayer, at the end of Stone-street, now being excavated by the society, under the superintendence of Mr. W. J. Lightfoot, their assistant secretary.

The Architectural Museum.—Sir Bartle Frere, one of the Council for India, will lecture here on Wednesday evening, May 25th.

Memorial of the Greek Revolution.—The King of Greece, we see from the *Morning Post's* Greek correspondent, has issued an ordinance authorising the erection of a national monument to the memory of the services and exploits of the Greek Revolution. M. Tsiller, a well-known architect, has been charged with the design of this monument, which is thus described in the *Courrier d'Athènes*:—

"The monument will be erected in the Place de la Concorde, one of the most beautiful squares of Athens. The principal figure is a woman standing, who represents Greece. Four other females seated personify the Peloponnesus, the islands of the Ægean Sea, and those of the Ionian. Four statues will represent—in front the Archbishop Germanos blessing the flag of liberty; on the right, the siege of Missolonghi; on the left, the combat of Navarino; and, behind, the arrival of Capodistria, of immortal memory, and King Otho. The seat of the principal personage will bear on the face the inscription, 'The Nation to the Liberators of all Countries,' and on the back, 'Union is strength.'"

Completion of the Clerkenwell Police Station.—This station, which is situated in the King's-cross-road, is from designs by Mr. T. C. Sorby, late surveyor to the Metropolitan Police. The amount of the contract was about 8,000*l.* The building is five stories high, and has accommodation for ninety-six constables, two inspectors, one superintendent, and one district superintendent. There are eight cells. Each of the floors is on an average 11 ft. high. The station is built with stock bricks, and the front windows and doorways have Portland and Tilbury stone dressings. The builders are Messrs. Lathey Brothers, of Battersea.

Waste Pipes in Cisterns.—In making the sanitary examination of the Highgate Schools, it was discovered that the waste-pipes of all the water-cisterns communicated directly with the drains, and that the water was contaminated in consequence. Twenty-seven children have been treated in the Fever Hospital, and it has been determined to remove the whole of those remaining to Bath-street, in order that further improvements in the building may be made. It is also proposed to erect a reception-ward and infirmary. There have been no fresh cases during the last ten days.

A Pseudonym.—Sir: The *Builder*, in a paper on "Easter Island," which appears at p. 322, gives an extract from a lecture delivered at our antipodes, in which the lecturer speaks of "Mr. Herman Melville, an intelligent American mariner." Permit me to inform such of your readers as may not be aware of the circumstance, that the above name is understood to be a pseudonym for Mr. Herman Merivale, C.B., Under-Secretary of State for India. I presume that he has sowed all such *wild oats* by this time.—A. H. GENT.

The Operative Bricklayers and the National Education League.—The Operative Bricklayers' Society has become a subscriber of 100*l.*, in ten years, to the funds of the Sheffield Branch of the National Education League. The society has forty-four branches scattered all over the country; and of its members, 655 voted in favour of the subscription, and 180 against it.

The Saving of Life at the Thames Embankment.—When the Embankment wall was built, the placing of chains along the wall so as to aid in the saving of life, was suggested in our columns. In a recent verdict of a coroner's jury, we observe a recommendation to this effect was appended to the verdict.

A Grammar School for Banbury.—A movement is on foot at Banbury to found a Grammar School, and towards the object Mr. Samuelson, M.P. for the borough, offers 1,000*l.*; Colonel North, M.P., and Lord Saye and Sele (the High Steward), promise each 100*l.*

Freemasons' Hall, Lincoln.—This building, which is to be erected upon land in Newland, will very soon be commenced. We are informed that in addition to the ordinary requirement of a Freemason Lodge, a room 70 ft. by 32 ft., and 20 ft. high, is to be erected at the back.

Albert Museum, at Exeter.—At Exeter, the Albert Memorial Museum, which is now finally completed, was handed over to the town council of the city by the trustees. A view will be found in a previous volume of the *Builder*.

The late Mr. Maclise, R.A.—The death of this great artist will have been heard of by most of our readers, and with regret. We may find an opportunity to speak of him.

Fine-Art Exhibition in Ripon.—This exhibition has been opened by Earl de Grey and Ripon, who delivered an address on art-education on the occasion.

TENDERS.

For roads and other works at Trouville. Messrs. Nelson & Harvey, architects. Quantities by Mr. C. A. Gould:—

Compagnon	£23,263 0 0
Young	20,855 0 0
Bracher & Son	19,000 0 0
Roberts	17,481 0 0
Jonerand	16,000 0 0
Coker	14,364 0 0
Louchard	14,253 0 0

For erection of a shop, with basement, at 300, Strand, for Mr. T. H. Ferrier. Mr. J. H. Rowley, architect. Quantities supplied by Mr. T. T. Green:—

Scrivener & White (accepted)	£674 0 0

For new stabling and additions to Stoke Hotel, Guildford. Mr. Henry Peak, architect:—

Strudwick	£631 5 0
Mason	618 0 0
Smith	581 10 0
Pollard & Son	547 9 7
Footer	497 0 0
West (accepted)	475 0 0

For house for Mr. Edwin Bostock, Stone, Staffordshire. Mr. Samuel Dorman, architect. Quantities supplied by Mr. Mansell:—

Freakley	£1,166 0 0
Inskip (Longton)	1,160 0 0
Whittam	1,139 0 0
Inskip (Dilhorne)	1,088 0 0
Ratcliffe (accepted)	1,090 0 0

For alterations and additions to the residence of Miss Bromhead, Bedford. Mr. F. T. Mercer, architect. Quantities supplied:—

Joy & Carter	£320 0 0
Spencer	316 10 0
E. Haynes	296 18 0
Cunvin	295 0 0
Potter	294 3 0
Richards	292 8 6
Dickens	290 0 0
Mercer	289 4 0
W. Haynes	288 19 6
Smith	288 18 0
Corby	288 0 0
Wilkins	284 6 6
Wootton	267 5 6

For new schools for St. John's Foundation Society, Leatherhead. Messrs. Benjamin Ferrey and J. H. Good, architects. Quantities supplied by Mr. Northcroft:—

Ebbs & Sons	£15,156 0 0
Hill, Keddell, & Waldram	14,872 0 0
Myers & Sons	13,956 0 0
Jackson & Shaw	13,740 0 0
Batchelor	13,046 0 0
Mansfield, Price, & Co.	13,011 0 0
Dove, Brothers	12,725 0 0
Sherbourne	12,574 0 0
Goddard	12,490 0 0

*** We are asked to mention that Messrs. Ebbs's tender included by accident an addenda bill of omissions, 2,026*l.*

For the erection of a dwelling-house and stable at Chislehurst, Kent, for Mr. C. J. Cotterell. Messrs. Scurry & Wright, architects:—

Candler	£2,600 0 0
Roberts	2,598 0 0
Holland & Hannen	2,476 0 0
Brown	2,435 0 0
Tavener & Son (accepted)	2,240 0 0

For erecting iron railings, on a Portland stone curb, on two sides of the grounds of the Seamen's Hospital, late Infirmary, Greenwich:—

Coker	£1,136 0 0
Featherstone & Walker	1,076 0 0
Topham & Co.	1,040 0 0
Turner & Co.	1,005 0 0
Cottam & Co.	988 0 0
Boyd & Co.	935 0 0
Skidman & Co.	920 0 0
St. Pancras Ironworks Co.	895 0 0
Hood & Co.	890 0 0
Victoria Ironworks	875 17 6
Hill & Smith	857 0 0
Smith & Co.	828 15 0
Barnet	795 0 0
Selden	790 0 0
Hammond	772 0 0
Stone	771 10 0
Barnish	740 12 0
Hobbs & Sutch	722 7 0
Jukes, Coulson, & Co. (accepted)	710 9 3

Accepted for building a pair of semi-detached villas in the Park, Hull, for Mr. W. Bainton. Mr. E. G. Smith, architect. Quantities supplied by Mr. G. W. Ranwell:—

Bricklayer.	
Goates	£1,100 0 0
Mason.	
Sweeting	178 0 0
Slaters.	
Dawber & Son	58 14 0
Carpenter and Joiner.	
Clarkson	630 0 0
Smiths and Founders.	
Latham & Co.	57 13 0
Plumber, Glazier, and Gasfitter.	
Goldman	380 0 0
Painter.	
Dreyer	37 18 0

For farm buildings and pair of cottages at Sutton Scotney, near Mitcheldever, Hants. Mr. Henry Peak, architect:—

Spackman	£772	0	0
Pollard & Son	691	0	0
Taylor & Downes	670	0	0
Fielder & Sons	658	0	0
Grace	634	0	0
Macklin (accepted)	585	0	0

For stabling at Holford House, Regent's Park, for Mr. R. Faber. Messrs. Hunt & Steward, architects:—

Colls & Sons	£292	0	0
Mills	290	0	0
Keys & Head	287	0	0
Gammon	275	0	0

For villa residence for Mr. Dennett, at Byfleet (bricks and slates to be provided by proprietor). Messrs. Kinder & Kinsey, architects:—

Waters	£583	0	0
Kelly, Bros. (accepted)	571	0	0

For alterations and additions to Sunningdale House, Upper Holloway. Mr. F. F. Holsworth, architect:—

Baugh & Bryant	£897	0	0
Manley & Rogers	777	0	0
Kelly, Bros. (accepted)	763	0	0

For rebuilding the Hope public-house in Smithfield Bars. Mr. Lewis H. Isaacs, architect. Quantities supplied by Mr. L. C. Riddett:—

Fearne	£2,516	0	0
Adamson & Sons	2,395	0	0
Phillips	2,385	0	0
Simpson & Son	2,299	0	0
Elkington (accepted)	2,159	0	0

For the erection of the Religious Institute in Corporation-street, Manchester, for the accommodation of the Manchester and Salford City Mission Offices, and depôts for the Manchester Auxiliary Bible Society and Religious Tract Society. Messrs. Horton & Bridgeford, architects:—

Dawson	£5,042	0	0
Warde	4,963	0	0
Robinson	4,815	0	0
Armstrong & Dow	4,756	0	0
Bowdon & Edwards	4,714	0	0
Statham	4,560	0	0
Tickle	4,437	0	0
Terras	4,336	0	0
Clay	4,320	0	0
Farrel	4,284	0	0
Hurde & Eadie	4,265	0	0
Davies & Mawdsley	4,241	0	0
Wade, Bros.	4,229	0	0
Southern	4,165	0	0
Davison	4,158	0	0
Connor	4,130	0	0
Thompson	4,051	0	0
Swindells & Little (accepted)	4,051	0	0
Higham	4,020	0	0

For works at Old Kent-road. Mr. H. Field, architect:—

Nightingale	£636	0	0
Wicks, Bangs, & Co.	625	0	0
Yearvey	600	0	0
Lacey	455	0	0

For additions to Trensham-vale, for Mr. Rennie. Mr. T. Wonnacott, architect. Quantities not supplied:—

	House.			Stables.		
Birch	£1,786	0	0	£295	0	0
Duke	1,450	0	0	250	0	0
Nightingale	1,400	0	0	320	0	0
Goddard & Son	1,300	0	0	298	0	0

For a villa at Redhill, Surrey, for Mr. F. Campion. Mr. F. Lees, architect:—

Cook	£1,521	0	0
Nightingale	1,480	0	0
Baguley (accepted)	1,375	0	0
Hooper	1,337	0	0

For Montpelier Tavern. Mr. J. Birch, architect:—

Warne	£393	0	0
Nightingale	370	0	0
Farthing	358	0	0

For additions and alterations to Sandlea House, Datchet. Mr. Josiah Houle, architect. Quantities by Mr. D. Cubitt Nichols:—

Ashby & Son	£5,994	0	0
I'Anson	5,932	0	0
Mansfield & Price	5,795	0	0
Axford & Whillier	5,698	0	0
Patman & Fotheringham	5,595	0	0
Macey	5,592	0	0

For completion of three houses, Moss Hall Estate, Finchley. Mr. C. W. Horne, architect:—

Stafford	£675	9	0
Taylor	575	0	0
Niblett & Son	540	0	0
Robson	514	0	0
Wheeler	439	0	0

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WANTED, by a highly respectable Young Man, of thorough business habits, a RE-ENGAGEMENT as SALESMAN, YARD FOREMAN, &c. or to Travel, or as Timekeeper, Storekeeper, &c. to a Builder or Contractor. Can measure and square up dimensions. Good character.—Address, B.C.A. 12, Windsor-road, Holloway, N.

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TO ARCHITECTS, &c.

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A THOROUGHLY practical CLERK of WORKS, acquainted with Gothic church work and all the building branches, ten years' experience, first-class testimonials desires a RE-ENGAGEMENT.—Address, H. HILL, 108, Hockley-hill, Birmingham.

A GENTLEMAN, of practical knowledge, of the general Building Trade, is open to an ENGAGEMENT as MANAGER to some large Firm, or over some large Estate Twenty-five years' experience. Aged 42.—Address, Y. M. Office of "The Builder."

The Builder.

VOL. XXVIII.—No. 1422.

Father Nile.

AS we pass along the banks of the famous river which are bordered as far as the eye can reach with waving crops of green maize, interspersed with the bursting pods of cotton, and overtopped by groves of date-palms, — as we wind along the narrow paths spared by the rapidly-increasing waters, and listen to the Arabs rejoicing as the flood mounts higher and higher,—we cannot but contrast the effects produced upon the soil by the annual inundation of the Nile with that produced by floods in other countries; nor can we help being struck by the cheerfulness it produces amongst the population here, while elsewhere a flood is a great calamity, and is the cause of confusion, mourning, and lamentation. We particularly remember when at one period of our lives it was our fate to reside on the top of a mountain in Asia Minor, overlooking a vast plain, which was intersected by a river noted in ancient history; that after a few weeks of constant rain, we were one night roused from our slumbers by a combination of apparently unearthly noises, by an incessant stamping of hundreds of hoofs on the rocky road which led to our dwelling, mingled with bleating, neighing, baying, hoarse shouts and occasional shots, such as might have led us, had we been Easterns, to believe that our lonely hut was besieged by a legion of jins and demons. Upon rushing out, revolver in hand, we were as much mystified as before, for we saw in the dim light a number of black forms approaching by a series of leaps. When, however, our trusty and very watchful guards had been aroused from their slumbers, they explained to us that these leaping forms were those of droves of horses from the plains, hobbled to prevent them from running away, accompanied by goats, sheep, and oxen, all compelled by the rising flood to take refuge on our mountain, and that the shots and cries were signals made by those drovers who had already escaped to warn their fellows to follow them to the heights. The next day we saw that the ancient river had burst its banks, and that where yesterday there were farmyards, homesteads, and cultivated fields, there was to-day but a lake of sluggish water some four or five miles broad. Days of labour of ploughing and sowing had been rendered useless, and all the seed sown in the fields swept away in one night. All communication was cut off from the opposite side of the valley for at least a month, and both peasant and proprietor suffered considerable loss. But in Egypt, on the contrary, the higher the water the greater the crop, and a good high flood means a year of plenty. The bounteous slime of Father Nile fertilizes the otherwise arid sand, and makes it bring forth all green things in abundance. We reflect on this as we pass along his banks, and we sum up how much the whole world, and even we ourselves, owe to this parent of streams. Not a little, truly; for the germs of the entire family of the arts and sciences were, so to speak, engendered in his slime.

All great cities were in ancient times founded upon rivers which bore their argosies upon their bosoms, and supplied them with water for drinking, for ablution, and for purification. No wonder, then, that such a prodigy of a river, which, in addition to these benefits, fertilized the country near it every year, attracted one of the earliest of peoples to settle on its banks. Their territory, by its very shape, that of a long strip of land on the borders of the river, 500 miles long by about 15 broad, surrounded by deserts at the sides, and difficult of approach from the sea, protected the inhabitants from invasion, and allowed them to cultivate the arts of peace century after century. On account of the excessive clearness of the atmosphere in this region, and the consequent brightness of the heavenly bodies, these early settlers were induced to study them, and thus became the originators of astronomical science. Although they did not learn to map out the stars with the signs of the zodiac, as the zodiacal table carved at Dendera would at first sight lead people to suppose, but learned the signs from the Greeks, yet they must have been acquainted with them from the earliest time; for we find that they symbolised the rising of the Nile by that mysterious figure, the Sphinx, which is half woman, half lion, to represent a combination of Leo and Virgo, because the inundation occurs when the sun passes through the houses of these two constellations.

Again, when the Nile deposited his annual load of mud he destroyed all boundaries and removed all landmarks: therefore the owners of fields had to make observations, so that when the water had subsided they could, by means of triangulation, establish their former boundaries: hence the origin of Geometry or the measuring of the earth, and hence the business of the Land-surveyor.

But more important than all to them was the management of the irrigation. They soon found out that if Father Nile rose 18 cubits they should roll in plenty, but that if he rose only 8 cubits they should be pinched by famine: consequently, long before the time of Joseph, engineers constructed vast dykes, drains, lakes, reservoirs, canals, and locks, to regulate the supply of water. One of their kings constructed the lake Mœris, to receive the superabundant water in years of great floods, in order that it might be conveyed to the fields by means of canals and locks when the flood was low. Everywhere in the valley of the Nile may be seen traces of these works. Who can doubt, then, that the Egyptians were the inventors of Engineering? Their road to the Pyramids and the machines used in their construction are other proofs that they had some science amongst them; and if further evidence is required, can we not assert that the Suez Canal, which has just been re-opened through the energy of M. de Lesseps, was originally their work? Hear what Herodotus says about it:—This prince (Necho) was the first that began the canal leading to the Erythræan Sea, an undertaking which Darius the Persian in later times continued. The length of this cut is a voyage of four days; its breadth is made such that two triremes may pull abreast. It begins a little above the city of Bubastes, and ends in the Erythræan Sea, not far from the Arabian town of Patumos.

Strabo gives further particulars respecting it. He says, that Darius desisted from the work when it was nearly finished, "influenced by an erroneous opinion that the level of the Red Sea was higher than Egypt, and that if the whole of the intervening isthmus were cut through, the country would be overflown by the sea." We see that history repeats itself, as far as erroneous opinion goes. Would that our engineers, who reported on the feasibility of making the canal, had read Strabo before penning their report, for he goes on to say, "The Ptolemaic kings, however, did cut through it, and placed locks upon the canal, so that they sailed when they pleased without obstruction into the outer sea and back again."

Other feats were performed by their engineers. A chamber, hewn out of a solid block of stone measuring 21 cubits outside, by 14 by 8, was conveyed from Elephanta to Sais, a twenty days' voyage in those days. It took two thousand men ten years to effect its transport.

As to the fine arts, Herodotus tells us that the Egyptians were "the first to erect altars, images, temples, and to invent the carving of figures in stone;"—the first architects, painters, and sculptors;—and their works still remain in the stupendous temples of Thebes, Dendera, Edfou, and Philæ, and are likely to remain when our more scientifically constructed structures have crumbled into dust. At first the cells of their temples were roofed with single stones; as the temples increased in size they required columns for the support of these roofs. These columns, at first square and short, became polygonal and round, and shot up by degrees, till at last they were crowned with capitals representing the lotus and the palm. Subsequently the one cell was multiplied to three or four, approached through courts and by a *dromos* bordered by sphinxes.

The Greeks borrowed the *dromos*, or sacred way, from Egypt. The Temple of Apollo, near Miletus, was approached by such a "via sacra," lined with seated figures, quite Egyptian in character, and resembling the statues of Memnon on the plain of Thebes in general style. Several of these figures are now to be seen in the British Museum. The Greeks also borrowed from the Egyptian temples the Temenos, or outer court, and the Pronaos and Naos, but they departed from the original type in placing their columns outside, instead of inside, their temples.

One of the most extensive architectural works of the Egyptians was the Labyrinth, near Lake Mœris, which was used as a house of assembly for the representatives of the different divisions of the country. There were 3,000 chambers in it,—1,500 on the lower and 1,500 on the upper story. Twelve courts surrounded it, and a single wall bounded it. Remains of the Labyrinth still exist, and have been fully described by Lepsius.

As to their sculpture, no one who has studied the Egyptian lions, bulls, rams, and human figures in the British Museum and Louvre, could deny that they are copied closely from nature, and every one must allow that though art in Egypt became conventional at too early an epoch, and was content to repeat itself for centuries, the colossi and other similar statues were great achievements for so early a period of artistic knowledge.

As to their painting, or rather the use made of it, we may learn a lesson from them. They covered the walls of their public buildings with history. We leave ours blank, or cover them with falsehoods; for a painting of an historical event, unless its costumes and accessories are as accurate as the state of knowledge can make them, are manifestly false. Some countries have learnt this lesson, why should not we? Munich, by the pictures on her Isar Thor, outside her Pinacothek, and in the arcade of the Hof Garden, reads her people lessons—pleasant, picturesque, and, we hope, profitable. But we, alas! are not artists by nature. Art amongst us is of forced or exotic growth.

We have seen that Astronomy, Geometry, Land-surveying, Engineering, Architecture, Painting, and Sculpture, had their origin on the banks of the Nile, and that even we of the nineteenth century might learn something from the ancient Egyptians. Our rulers, too, might learn something from their rulers, for in the islands of Rhoda and Elephanta are wells communicating with the river, with columns standing

in them, on which were registered the heights of the various inundations, and according to this registry the taxes were arranged on a sort of sliding scale: if the river was high the taxes for the year were raised, if low they were lowered. We fear it will be long before our Government will thus make allowances for "hard times."

Such was Egypt of the earliest times. Under the Mahometan rule its engineering works were neglected, and its canals and reservoirs became choked up. The natural fertility, however, is so great that the country flourishes notwithstanding these disasters; and there is reason to believe that under an enterprising Government it might become one vast garden for cottons and cereals. What are we about that we ignore this field for enterprise, though it is our half-way house on the road to India,—that we allow Frenchmen to have the merit of opening the way for us, and of gaining that influence in the country which a successful undertaking will always give the nation that carries it through, among Eastern people? We are but poor slow coaches after all. It is thirty years since Professor Wheatstone's then novel invention for spelling words slowly by means of electricity was exhibited in the Adelaide Gallery, and we have not yet girdled the earth with our electric telegraphs. It is fifty years since railways were invented, and yet we have not constructed one by Bagdad, across the easy desert to our twin empire in the East, though we were in a sad strait for one eight years ago, and almost lost possession of India for want of it. *En attendant*, and while it is being constructed, let us shorten the journey to India by a few days at least, by making a railway on the banks of the Nile as far as Thebes, and then across the desert to Kosseir; let us dig up the harbour of Berenice, of Albus Portus, or the Myoshormos of the ancient world, and spare our travellers the dangers and *désagrément* of a voyage up part of the Red Sea at least; let us build our winter villas on the banks of the Nile, and follow the noble pioneer, Sir Samuel Baker, in the conquest and civilisation of the savages of the interior of Africa.

ARCHITECTURE AT THE ROYAL ACADEMY.

THE retreat from the crowd, talk, and bustle of the larger saloons of the Academy Exhibition on the first day, to the comparatively monastic seclusion of Gallery No. IX., affords a certain appreciable relief which may be taken into account as the one compensation for the despondency into which the architectural mind is prone to fall, in regarding the discrepancy between the numbers and apparent interest of the spectators in this as compared with the other galleries. A young lady or two attracted by the view of "a very nice house," and a few monstached architectural draughtsmen studying solemnly in duets and trios, and letting out scattered bits of laconic criticism, seem to form about the average retinue to the architectural designs. We speak here more in sorrow than in anger. It would be scarcely reasonable to bring any definite complaint against the mass of visitors for their indifference, for (as we observed recently when advocating the retention of the separate Architectural Exhibition) drawings representative of architectural design stand on quite a different footing from other drawings, as being only a means and an illustration to an end; whereas the latter are themselves the end and completion of the artist's idea. We cannot expect the average of visitors to draw this distinction, and therefore must be content to find drawings which, as mere drawings, are no doubt for the most part less effective than those in the water-colour room adjoining, or than such things as Mr. Haden's clever and effective etchings on the opposite wall, looked upon with less interest by those who are not accustomed to trace in their minds the connexion between an architectural drawing and the final result which it shadows forth, much less to consider how very important a part many of these works, if executed, will have on the civic or domestic life, as well as on the outward aspect, of the neighbourhood in which they may be erected.

One thing is, at all events, evident on looking at the drawings (all perspective views, with two or three exceptions) representing architecture at the Academy, that Gothic is in the ascendant, so far as this display is taken as a typical one. Out of seventy-eight drawings classed in the catalogue as architectural, only seven are in any style generally accepted as Classic, and of these only five are of works executed or proposed to be executed. We may roughly class the whole under the heads Ecclesiastical, Civic or Public, Domestic, and Decorative design. Among the first are two churches, by Mr. Street, in course of erection, "St. John's, Torquay" (808), and "St. Peter's, Swinton, near Manchester" (818). Each of these exhibits the characteristics we have come to associate with this architect's ecclesiastical designs,—breadth of wall surface, picturesque effect obtained rather by the disposition of solid masses of stone in various planes than by moulding or surface decoration, general appearance of repose and stability, marred, however, by a studied plainness in external design, which may even be called affectation; as, for instance, in the meagre wall arcade, without impost or moulding save a mere chamfer, in the tower of St. John's Church. In the other design, the effect of letting the outer member of the archivolt mouldings of the aisle windows die into the side of the buttresses is questionable, as tending to give the appearance of the wall being weakened below this point, the line of the buttress being continued up to what should be the second plane of the jamb mouldings. Both these drawings, however, exhibit the true feeling for the art of Masonic design, as distinguished from mere surface ornamentation; and in one of them we may notice the solidity of expression obtained by keeping the base of the tower flush with the aisle wall, without any break, — a treatment more common in Italian than in Gothic design. Much of the same sort of merit belongs to the "Interior of St. Peter's, Deptford" (756), by Mr. Marrable, which, indeed, is not so much solid as ponderous, but is in keeping throughout. Here the mural construction is partially carried into the roof by brick arches, with nearly solid spandrels thrown across, in lieu of timber principals, and with, of course, a much more monumental effect. The corbels supporting the shafts from which these arches spring are, however, somewhat ungainly, and might have been brought further down on the wall, with constructive and artistic advantage. Messrs. Ordish & Traylen's "Church of St. Paul, Leicester" (742), is worth remark as a boldly-treated exterior, shown in an effective Indian-ink drawing. The straight, unbroken mass of masonry forming the main portion of the tower shows a feeling for breadth of effect; but the junction of tower and spire is less successful, and wanting in refinement, the heavy quasi-turrets, with their tops scarcely clearing the base of the spire, are not at all satisfactory, and spoil an otherwise good design. Beyond these there is little in church architecture calling for special remark. Some admirable drawings there are certainly, such as Messrs. Banks & Barry's restoration of "Helmsley Church, Yorkshire" (772), and Mr. Pearson's "Chancel of St. Mary's, Freeland, near Oxford" (785), the latter showing its architect's usual solidity of design, and true sympathy with the best class of Gothic work, but neither presenting anything beyond careful working out of well-known materials. Mr. Waterhouse's "St. Matthew's, Blackmoor" (792), is a picturesque design of an ordinary Early Decorated type (the tower very ordinary), and Mr. T. Bury, in his brick and stone church of "St. Barnabas, Cambridge" (799), narrowly escapes vulgarity in his imposition of massive and cabbage-like finials. Mr. Emerson's "Interior of Choir at Allahabad Cathedral," in course of erection (793), reminds us strongly of "Cork Cathedral," and exhibits no indication, practical or æsthetic, of having been considered with special reference to a hot climate. The same architect's "Chancel of Girgaum Church, Bombay," is an admirable little drawing of an interior, but the design belongs to what we will take leave to call the "stumpy-column" school, of which we are tired.

Coming to civic or public buildings, Mr. Street sends his now well-known original competition drawing for the "Law Courts," the bird's-eye view of the whole group (788), and his later design for placing the building on the Thames Embankment. Viewing it simply as a design, and leaving out of question the site, we certainly prefer this, in general effect, to the earlier one. A far greater repose and length of unbroken line would indeed have been our choice for a long river front, but no one can deny to this design a charm and picturesqueness of foreground (if we may so speak); rarely surpassed in its own way, and to which the mass of the central hall behind forms an effective and contrasting background. Two defects in it (waiving the main defect, as we consider it, of breaking up the front into so many small portions) are the interposition, towards the right, of the immense semicircular arcade, which is not only out of keeping with, but which, being of the height of nearly four stories, completely outscales the rest of the building; and, secondly, the nearly equal height of the principal tower and the two cupolas over the central hall. These latter are most picturesquely designed in themselves, but being totally distinct in design from the tower on the right, and emulating the latter in height, the eye is puzzled which to select as the principal and dominant object in the grouping. If it were not convenient to carry the tower higher, the cupolas should, we think, have been kept lower, and in subordination thereto. The same architect sends also two of the competition drawings of parts of the original design enlarged, showing us (*inter alia*) niches and statues of saints learned in the law, as we suppose. The contrast between design, which, whatever its faults, is artistic, and what is not so, could scarcely be better illustrated than by comparing with the drawings just mentioned the large view submitted in competition for the Bradford Town Hall, by Mr. Nevill (775). A hydro-cephalous clock-tower, windows without design or grouping, and a huge flat segmental arch forming the principal entrance, with insufficient abutment, and with a pier bearing directly over its centre on the story above, are the main features of the design, which we may certainly congratulate Bradford on not having selected. Messrs. Lockwood & Mawson's accepted design for the same building is represented by drawings 796, 797, and 798, the execution of which is most careful and admirable, though in a somewhat conventional style. Mr. Seddon's perspective view sent in for the same competition (778), shows a fine, free, sketchy touch in indicating detail, and is a very pleasing design on the whole, all the better for the fact that its author has for once given way to uniformity a little, and condescended to a front of which the two sides are symmetrical in the main. The treatment of the windows is very picturesque; but we do not like the rather solid front of the centre tower (the line of which rises only from the roof), immediately super-imposed upon the lighter array of windows and niches of the story beneath. His centre tower is, however, more pleasing than the machicolated and battlemented erection which frowns over Messrs. Lockwood & Mawson's front. Messrs. Salomons & Jones's design for the "New Reform Club in Manchester," already illustrated in our pages, is somewhat *outré* in appearance, as their designs unfortunately often are, the angle towers being corbelled over to an extent which rather surprises than pleases the eye, and deprives the design of what repose it might otherwise have, which, to say truth, would not be much. Mr. Barry's frame of small drawings, illustrating a proposed enlargement of the House of Commons (794) must not be passed over. The plan shows the superfluous space in what would be the over-large private lobby (the present "House") made available at the angles for secretary and ex-secretary of Treasury, post-office, and refreshments. The new House, as shown in the perspective view, looks, however, dangerously large for any but strong-lunged speakers. Views are also given of the new division-lobby and reading-room. The new House, it should be observed, is lighted from above through stained glass. Mr. Porter shows a regulation design (811) for the "Charing-cross Branch of the Union Bank," with the usual pilasters, consoles, and pedimented windows which seem proper to banks. Mr. Wild, in his quiet and unpretending drawing of "New Consulate Buildings," for Alexandria (813), shows to our thinking one of the most original and best-considered designs in the room. This may be called Italian architecture, adapted to a certain extent to another climate and country, a degree of Egyptian feeling being imparted to it by the square columns of the long verandah on the first floor, with the deep shadow which would be formed between them; the feature being on a small scale similar to Mr. Cockerell's treatment of the west flank of St. George's Hall, Liverpool, on a larger scale, but that the latter colonnade wants the roof and the consequent deep shadow. Mr. Wild's treatment of the windows on each wing, set in the centre of a slight projecting break in the masonry, and with a stone pent-roof on brackets over the upper window, is also very refined and pleasing. The one fault in the design is in the *rococo* garlands in the frieze, a commonplace feature which we regret to see clever architects indulging in.

In domestic architecture, Mr. Edis shows us a very good little drawing of a "Mansion at Petersfield," built in brick, with square-headed mullioned windows with stone dressings; a thoroughly unpretentious and solid-looking little house: the buttresses and gable to the porch seem, however, unnecessarily heavy. A more important-looking design is Messrs. Salomons & Jones's drawing of "Kenwood Tower, Highgate," in course of erection; a design combining dignity with a certain degree of picturesqueness, but rather wanting in unity of treatment; a form of cusped window-head characteristic of debased Gothic coming rather ill between quasi-classic pilasters and under a square head; the use of wooden barge-boards and stone copings to gables in the same house appears to us also a want of keeping.

It is worth noting that Mr. Brooke, the owner of this house, now in progress, and an illustration of which we shall shortly publish, has purchased Mr. E. M. Ward's fine picture, "Judge Jeffreys and Richard Baxter," now in the Academy exhibition, and Mr. Frith's charming portrait of "Mrs. Rousby as Princess Elizabeth in 'Twixt Axe and Crown,'"—the first for £1,500, the second for 350 guineas.

Mr. E. M. Barry's "Additions and Alterations to Thorpe Abbotts, Norfolk," is interesting as recalling so much of his father's manner of dealing with these kind of commissions, in which he showed his abilities as much as in anything he did. Mr. Barry gives us a sketch of the house as at present, with scarcely an architectural feature; he dominates it with a modillion cornice, throws out a bay in the centre of the garden front, and adds a tower with open arcaded upper story very much like some of those which Sir Chas. Barry added to some of the houses he took in hand to improve. We do not felicitate Mr. Barry so much in his Gothic "Villa near Egham" (803): it is heavy without being picturesque, and the conical lean-to roof over the semicircular bay is not a happy feature. Mr. Norman Shaw's views of "Leyes Wood, Sussex" (762 and 779), are admirable specimens of the peculiar style in which he is a proficient, embodying so much of old English sentiment; a revival of the past which it is more lawful to indulge in a private country-house for the gratifying of a man's own taste, than in more public places. The drawings are, as might be expected, capital specimens of pen-and-ink etching, but Mr. Shaw's long brick chimney-stalks are excessively ugly and indefensible, upon any but archæological grounds. The same kind of interest attaches to Mr. David Brandon's large drawing of the Marquis of Camden's "Mansion at Bayham Abbey, Sussex" (806), a complete and careful reproduction of Elizabethan domestic architecture. But can we with the old style reproduce the old sentiment? Perhaps Mr. Brandon's client thinks so; at all events, the experiment has been well carried out so far as the architect is concerned. Mr. Truefitt's "Bank and Residence at Altrincham" is another of those faces of old times, in the shape of a veritable old English home in that "post and pan" style, about the nomenclature of which we do not seem quite to agree just now. Mr. Edis's "New Warehouse, Bridge-row, City," is a very good bit of modern Gothic street architecture; the only thing in it that displeases the eye is the heavy pier above the first floor string, with a thinner and narrower pier under it, the latter being, no doubt, starved to ensure the ground-floor shop its orthodox area of plate glass. Mr. Edis should knock off the little rosettes on certain portions of the piers; small ornaments like these, projecting beyond the face of the masonry, and which require an additional thickness of stone to cut them from, are foreign to real masonic design. "Dobroyd Castle," by Mr. Gibson (766), which we illustrated some time since, is a powerful design, standing well in the midst of the landscape in which it is placed, and deriving much character and expression from the simple expedient of battering the walls of the ground-floor story; and Sir Digby Wyatt's (771) "House at Uckfield, Sussex," is what may be called an eminently sensible and quiet Gothic design. The "New Portion of the Château de Martinvael," by Mr. White, is a peculiar and characteristic design, consisting of rubble masonry, with ashlar dressings: the general design is of an Early Gothic type; but the architect has ventured to use square instead of pointed heads to the windows in the semicircular bay, with short intermediate shafts supporting the stone lintels; and, the constructive advantage in such a position being obvious, the effect is piquant, without appearing unmeaning.

Among smaller decorative details of domestic architecture, Mr. F. P. Cockerell contributes a design for a marble chimney-piece (814), in a French Renaissance style, and with large marble figures, not altogether satisfactory as to conception, though the execution of the whole is very good. Mr. Kerr's "Chimney-piece and Buffet at Bearwood" (791) looks very good as a specimen of design in wood-carving, but is placed too high for proper inspection. Mr. Talbert gives an "Elevation of Dining-hall, showing Decoration and Fittings," which we are glad to see are less *bizarre* in outline and idea than some other things of the same kind which this admirable draughtsman has turned out. Mr. Burges, however, almost outdoes Mr. Talbert in this line, in his "Designs for the Decoration of the Winter and Summer Smoking-rooms at Cardiff Castle" (744 and 752), which are truly fearful and wonderful, with dragons indescribable disporting themselves on the walls; and surely, surely, Mr. Burges, the colouring, the *tout ensemble*, is not the most harmonious in the world! Did some other hand, in a little fit of sarcasm, introduce the occupying figures in Mediæval costume? Certainly, none but "ye men of ye periode" could seem at ease in such rooms. Among drawings purely illustrative, we may mention "Interior of the Church of St. Gomar, Lierre, near Antwerp," by Mr. Chase (747), as an example of fine architectural drawing not excluding effect; and Mr. George's "Transept of Burgos Cathedral" (774), as an equally good specimen of picturesque effect, not excluding architecture. Mr. Spiers sends "The Mosque of Kaitbey, Cairo" (784), and Mr. Emerson a "View of the Taj-Mahal, Agra" (776), a very good and not laboured drawing, showing the white marble dome against an intensely blue sky, and in the archways the cool, greenish shadows peculiar to white marble in shade; it is a very effective sketch. Mr. Goodchild's "Restoration of the Piscina in the Baths of Diocletian, as suggested by the late Professor Cockerell," is a most admirable specimen of purely architectural drawing—hard, precise, and finished, though not so pleasant to look at as many others in the room, owing to the prevailing red-brick tint and the not very interesting character (architecturally) of the design.

Taking the contents of the Architectural Gallery on the whole, the exhibition appears to us better than that of last year. In point of mere drawing there is little that is not admirable, and much that all young draughtsmen would do well to study. In point of design, the general impression left on us is, that there is too much mere archæology; and that those designs which exhibit any marked individuality or novelty are mostly somewhat abnormal in style and manner; in some instances almost grotesquely so; and that in not a few instances some of the time which has been bestowed on elaborate drawing and colouring (pleasant to look at when it is done, certainly) might have been better employed in the consideration and evolution of better or more original design and detail.

STAGE ARCHITECTURE.

COVENT GARDEN.

THE production, at Covent Garden, on Tuesday night, for the second time, of Cherubini's grand tragic opera, "Medea," suggests a remark on the treatment of architectural features, especially of the classic order, on the stage. Stage architects almost invariably attenuate the columns of their classical buildings to a degree which robs the scene not only of its dignity, but even of its verisimilitude. This was the case with the scenes, otherwise very effective, of the first and second acts of "Medea;" and another practical mistake is the spacing of the columns so wide, that no stone lintel could possibly carry from one to another. But in the case of the opera in question, there was an historical error also with regard to the architecture, and that of a double nature. In the first place, we should scarcely have been presented, at the same period, and in the same neighbourhood, with full-blown and fully-developed Corinthian and Ionic capitals respectively, in two consecutive scenes; and the practice of fluting the column on the lower portion, and leaving the rest plain, is a corruption, and not a Greek feature at all. But the serious lapse with regard to archæology was this, that the story of Medea belongs, if we affix it to any historic period, at all events to the very earliest Greek period; and with such a fable, so essentially old-world in its associations and nature as that of Jason, the finished and elegant Ionic and Corinthian architecture of civilised Greece has no affinity, either historically or æsthetically. The one piece of architecture which harmonised with the story was the temple-front in the third act, with its short Doric columns of only four or five diameters in height, which at once carry us back to the period of early and undeveloped Greek architecture. Had all the architectural scenery been of this style, unity and probability would have been given to the whole, and the mind would have been carried back to the early "heroic" age to which the fable belongs. It is not to be objected that if the music and scenery are fine, we ought to be content with the *tout ensemble* without caring for such correctness of combination. Opera is not satisfactory unless all its constituents,—music, dress, and scenery,—go to assist and support one another in feeling and in effect; and those who think otherwise we may remind of the reply of Goethe on the subject, recorded by Eckermann,—"I cannot understand, my friends, this bit-by-bit enjoyment of yours. How can you be really enjoying yourselves through the ear, when the equally powerful sense of sight is offended by an incongruous spectacle?" It is just this sense of congruity which English theatrical audiences are so deficient in, and to which they should be educated.

We ought scarcely to mention this performance at all without a word of recognition for Mdlle. Titiens's splendid presentation of the arduous part of *Medea*, a part to the adequate execution of which she alone, perhaps, of living soprano singers, is physically equal, and her conception of which artistically was almost all that could be wished. Dr. Gunz, as *Jason*, also showed himself a thorough and painstaking artist, achieving a noteworthy success with less of natural advantages of voice to aid him than are enjoyed by some tenor singers of more brilliant reputation, but of inferior æsthetic perception and cultivation.

THE FALLEN ARCH AT BLACKFRIARS.

THE attention with which not only our habitua readers, but, thanks to the courtesy of the mos influential of our daily contemporaries, the great bulk of the reading public, have followed our investigations of some of the most important engineering questions that have lately assumed prominence, has made us feel it to be proper to pay an early visit to the scene of the recent collapse at Blackfriars. We are chary as to the use of the word "accident." In any disaster of the kind, the first thing to ascertain is whether it really comes under the category of unavoidable mischance or not.

The accounts which were given on the 30th ult. of this fall were, in our view, far from intelligible. Every one in any way familiar with building is aware of the difference between a tunnel and a bridge. For any English engineer, at the present day, to attempt to tunnel through "made earth," or to construct a brick arch, with a tunnel section, through or under such material, would be a folly of which we hope no persons intrusted with the control of any of our public works are capable. Yet no other explanation seemed consistent with the first reports of the disaster.

The account of the inquest on Patrick Hearne, held on the 2nd inst., does not throw very much light on the matter. The manager of the Metropolitan District Works deserves honourable mention for the straightforward candour and courage with which he stated, as to the unequal weighting of the arch,—"speaking after the event, if any one is to blame, I am." One gentleman, who writes the letters C.E. after his name, "could not state the cause of the accident." Another "thought the accident was an exceptional one. A hundred arches had been constructed and treated in the same way, and not one of them had given way." At a time when it is beginning to be admitted on all hands that education is a necessity, it is lamentable to see any member of a liberal profession treating a simple statical question as an inexplicable mystery. The engineer of the company seems to have confined his evidence to a contradiction of the statement that some of the men had refused to work, from an instinctive sense of danger.

The site of the arch in question is in the small interval existing, on the line of the underground railway, between the new Blackfriars-road Bridge and the Railway Bridge that crosses the Thames immediately below. The tunnel for the low

level railway has already been driven under the Blackfriars-road. The station for this river-side line is rapidly rising immediately under the Railway Bridge. Wrought-iron girders, about 5 ft. 4 in. deep, of some novelty of detail in their construction, form the roofing of the line at the station. But between the face of the ordinary section of tunnel under the road, and the commencement of the station, occurs a length of some three bays of brickwork, of the full width required for the station, which have been covered by a brick arch instead of by the girders and jack arches which they carry,—a very unfortunate piece of economy.

The span of this arch, judging from pacing over very rough ground, is about 45 ft.; the versed line some 11 ft. 6 in. The brickwork is askew, in six half-brick rings, which are increased to eight half-brick rings on the haunches of the segment. The accounts given of the piling of material on the arch are absolutely erroneous. Over the crown there is only about a foot of what looks more like clay puddle than anything else. Over the haunches, and, so far as the removal of material displays the section, behind the abutments, and beyond the haunches of the arch, is made ground of a very "rubbishy" description.

Now, reverting to what we before said as to the difference between the section proper for a tunnel and that fitted for a bridge, we are fully aware that, in this country, the rule of practice in our railway works has not been to make our bridges perfect as masonry structures, or, in other words, so to construct them that they would stand alone. The great works of our masters in engineering, the Romans, were so constructed. For that reason the *Cloaca Maxima*, 2,500 years old, is now standing. We have been guided by the principles of an economy which may not, in the long run, prove a sound one; and have made the stability of our arch-bridges depend in great measure upon their earthwork backing.

In bridges with abutments in the solid earth, as in those over railway cuttings, this mode of structure may be perfectly safe, as, in every instance, the earth has to bear the weight of the arch; so, when the earth is undisturbed, and is not likely to be disturbed, it may be relied on to bear the thrust of the arch.

But with bridges under embankments the case is different. The stability of these structures, although they were strengthened with buttresses, or, as they are called, counterforts, depends to a great extent on the care and fidelity with which the earth-backing is punned behind them. Hence, in point of fact, a much larger number of them than engineers cared to report to half-yearly meetings fell down. It will be fresh in the remembrance of those who survive, out of the largest engineering staff in England thirty-five years ago, how intelligence came one morning to an office, which was then in the country, but is now in London (owing to the growth of the metropolis), of the fall of "another bridge." Every eye was directed to one of the subs (he is a great man now), who seemed, however, quite unconcerned. "So-and-so,"—at last came the attack,—"that must be another of *your* bridges." "Oh, no!" "But it *must* be." "No, it is not." "What will you wager?" "My dear fellow, I should only be robbing you—*my last bridge fell down last week.*" This is a literal fact.

Now it is evident that when, in the drawings that form the record of existing and of former works, it is impossible to represent certain elements of stability, the value of the experience derivable from such drawings is impaired. No drawing can show the amount of punning actually given to backing. No drawing can give any satisfactory detail of the earthen backing of a bridge. The masonry is distinct enough. As matter of calculation it may be evident that it would not stand as an independent structure. The *minus* quantity has to be made up by the resistance of the earth backing, partly dependent on its weight and partly on the mode in which it is artificially consolidated,—that is to say, the stability of the bridge depends, after all, on the rule of thumb.

It is this rule of thumb alone which admits of "accidents which are exceptional." In the present case the material of the backing, as far as we could judge from personal investigation, was not of a nature that any amount of ordinary punning could have properly consolidated. Again, speaking as we before explained, not from examination of the drawings, or from explanations given by the engineer, but from careful study of all that met the eye, the brickwork was hardly of a section to which we should have considered it safe to trust. The abutment-walls should at least have been carried up to the level of the soffit of the crown of the arch, either as a solid spandrel, or as spandrel-walls with cross arches, which even the loading line of the arch might have indicated to be proper. Had less been left to the questionable exactitude of the earthwork backing, we should not have been reduced to the dilemma of extreme instability of equilibrium in structural design, or of great negligence in the unequal weighting of a skew arch, as matter of execution. A little more statical precaution and a great deal less trust reposed in rule of thumb, and such an "accident" as that which proved fatal to Patrick Hearne would have been rendered, as it ought to have been rendered, impossible.

We observe that, in the busy eastward extension of the works of this subterranean line, the chain-pump is merrily at work. We also observed, on passing under the river front of Somerset House, the large iron washers, disfiguring Sir W. Chambers's fine ashlar, which terminate the bolts by which that noble building is now tied and bound together, in the hope of preventing a second edition of the catastrophe that befel the dining-room of King's College. We beg to call the attention of the Very Rev. the Dean of St. Paul's, or of the architect to the chapter, or of the responsible person, whoever he may be, to these points. We do not say there is danger; but we do say that there is extreme need of watchfulness. The engine that moved the entire river front of Somerset House, as far at all events as the terrace is concerned, is drawing nearer and nearer to our noble metropolitan cathedral. Dean Buckland's recently cited remark to the workman on a sewer,—a vastly unimportant matter in comparison to the great metropolitan tunnel, must not be forgotten. "Pumping water! You mean pulling down St. Paul's!" We are not aware whether the now head of the cathedral chapter possesses the geological knowledge of his lamented brother dean, or the loving care for the fabric entrusted to his care of which the (happily) living historian of Westminster Abbey gives such constant proofs. But in any case his anxiety for the stability of the fabric committed to his responsibility must be susceptible of excitement. We wish to call attention to our former remarks on this head,—to the unmistakeable confirmation of their truth given by the King's College catastrophe,—to the fact that the activity of these powerful pumps is now directed towards spots that will soon lie in a direct line between St. Paul's and the river,—and to the circumstance that a serious "exceptional accident" has occurred eastward of Blackfriars Bridge. Clearly the Metropolitan Railway cannot be left to burrow its own course in its own way, unwatched by any independent engineering authority, if we are to sleep soundly without dreaming of St. Paul's.

Messrs. Bateman & Révy, in a letter which we had pleasure in publishing, as it so implicitly, if not explicitly, confirmed our remarks as to their scheme, came at last to the forlorn argument that if anybody *should* blow up their submarine tube, France and England would make this aggressor pay for it! Perhaps the Dean and Chapter of St. Paul's might have the same moral claim against the Metropolitan Railway Company, in case of any damage to the cathedral. For ourselves, not being lawyers, we hold that prevention is better than cure, and we shall think that the catastrophe of the 30th ult. is not without some compensation, if it lead to a careful and adequate investigation of the possible effects of the works now in progress east of Blackfriars Bridge upon the stability of St. Paul's Cathedral.

A Crystal Palace for New York.—The Bill incorporating the Industrial Exhibition Company, which was organised in this city to erect a permanent Crystal Palace, has passed the Assembly, and, having already passed the Senate, only requires the governor's signature to become a law. The project is one of great magnitude, and as the capital—seven millions—is said to be already paid up, promises to be brought rapidly to completion. We understand that the building is to be a permanent one, and after the exhibition is over will be devoted to the uses of a conservatory, botanical and zoological gardens, and to the general education of the masses.

THE SOCIETY OF ARTS CONVERSAZIONE.

THE managers of South Kensington Museum will entirely lose the confidence of the public in any power they may possess of providing for the reception of a large number of visitors, if they allow a repetition of the inconveniences inflicted on their guests on the 4th of May. If on any plea it can be urged that the arrangements were not discreditable, it can only be by showing that there were no arrangements at all. The doors were simply opened to a sufficient number of persons, provided with tickets, to fill the courts. The cloak-room was a positive man-trap, only to be approached by a fight, and only to be left by a still more severe fight. It was not only inaccessible, but recessed so as to insure the utmost amount of struggle; and we have no doubt that minor personal inconveniences, sprains, and bruises, were many.

The royal visitors walked through the courts, and were thus visible to those of the visitors who immediately lined the path. But the seats in the tribune set apart for their reception were so arranged, contrary to all precedent and to all expectation, as to render the occupants entirely invisible to the large number of persons who had come for the express purpose of being able to look at the pleasant features of her Royal Highness the Princess of Wales. A moment's glimpse of a head was all that these expectant guests obtained. The disappointment was general and intense. Then came the renewed fight for the cloak-room door, and how the six or seven thousand guests got home is more than we can say.

THE THIRTY-SIXTH EXHIBITION OF THE INSTITUTE OF PAINTERS IN WATER COLOURS.

A CRITICAL notice of the Exhibition of the "Institute of Painters" in Water Colours must, in the present season at all events, bear a strong family likeness to a notice of the Exhibition of the "Society of Painters" in Water Colours. Country visitors, and, still more pathetically, foreign visitors, helplessly ask what is the difference between a Society and an Institute? In the absence of either any definite reply to that natural question, or of any marked distinction of style, of method, or of excellence, between the collections in the two galleries, we must content ourselves with the satisfactory reflection that the division of the water-colour drawings which solicit the public approval during the ensuing month or two, into two galleries,—one containing, as we showed last week, 261 pictures, and the other, on which we have now a word or two to say, 283,—is much more favourable to the interests of the artists, as well as more agreeable to the visitor, than the crowding together of 500 works of art on the same spot. In fact, it is much more satisfactory to be *obliged* to devote separate visits to an adequate number of pictures, than to run the risk of having the visual nerves fatigued, or to have to make the heroic resolution to stop at No. 250 to-day, and recommence with No. 251 to-morrow.

There is another respect in which we think a reform might be instituted with advantage to all parties. The number of pictures which any artist is allowed to exhibit ought to be curtailed, and definitively fixed. In this respect the "Institute" is no less a sinner than the "Society." The latter body displays on its walls eleven pictures by one artist, twelve by another, sixteen by each of two others, and no less than twenty by a fifth. The "Institute," to say nothing of those who send five or six drawings, admits seven from each of seven artists, eight from four, nine from three, and thirteen from one. We are convinced that this is a mistake. However great a gift facility of production may be, and actually is, the sleight-of-hand which produces it is a quality different from, even if not inconsistent with, those excellences for which we purchase a picture. We think, for instance, that the pencil-mark of admiration which we find scored against Mr. J. H. Moles's "Watermill at Chagford, Devon" (No. 156), would have been elicited by other productions of his pencil, had they been fewer than a dozen.

One of the first points that strike the reflection on a visit to most of our galleries is, how rare it is for an artist to take the trouble of considering what a picture ought to be, before he begins to draw. In the selection, not only of the object, but of the best mode of putting that

object on the canvas, lies one main secret of the painter's art. It is that same instinct which is also a chief requisite for the success of the photographer—the true art-conception of form, and of the appropriate method of isolating the chosen form from others, without harsh or artificial severance. We can contrast in this particular the drawings of two artists in the present gallery. We are not disposed to undervalue the skill and taste of Mr. Skinner Prout. He handles a truthful pencil. He selects picturesque or otherwise striking scenes, and represents them with fidelity, and often with very happy effect. Look at his "Chartres" (187), his "Rouen" (272), his richly-coloured and faithful "St. Nicholas, Ghent," with the busy commercial life of the most Romanist city in Europe,—the ancient town that still heads its municipal papers S.P.Q.G.,—the senate and people of Ghent,—with all the stir and chaffer going on under those wonderful umbrella booths in the street. Each of these is good,—but it is only as a good "bit." You see no reason why either picture should include so much and no more. It might be almost indefinitely increased, or perhaps reduced, in size, and yet be neither more nor less of a picture than it is. It is like a set of numerals written down, correctly, indeed, but by chance—not a round number, or symbolic number, that tells of its own individuality.

This object is still more strikingly exhibited in such instances as Mr. Chase's "Entrance to the Chapter-house, Furness Abbey" (42), and his richly decorated interior of "Roslyn Chapel, sketched previously to its Restoration" (173). In these and similar pictures the artistic arrangement is positively *nil*. As far as the paper goes it is covered, and very well covered, with good representation of architecture of great interest and beauty. But whether the number of square inches before us have been cut out of a larger picture, or why, if otherwise, that bit, and no other bit, of the building should have been portrayed upon them, appears a mere matter of chance. The bit of work is good, but it is not a picture.

In contrast to this mode of cutting out a part of a landscape as if with a pair of scissors (which finds especial favour with the painters of beech woods), let us look at Mr. B. Green's "Remains of Walsingham Priory, Norfolk" (140), his "Remains of the Convent of the Grey Friars, Lynn, Norfolk" (146); his "Caistor Castle, Great Yarmouth;" or his beautiful ruin of "Castle Acre Priory, Norfolk" (207), with its Norman west front cut into, as is the case in the very similar façade of Rochester Cathedral, to admit of the insertion of a much later pointed arch. In each of these drawings, to which others may be added, there is the first element of a good picture. Not only is there a well-selected object, but this object is so treated, with reference to the means of representation at the disposal of the artist, as to make a good picture, to lay hold on the mind by its individuality. Enlarge or diminish the surrounding landscape, and you injure the effect of the drawing, independently of balance of colour. Sketch the scene in pen-and-ink on a sheet of letter-paper, preserving the same proportions of area and of object, and you have an artistic sketch. It may be a design not of the highest order as to what it represents, only a ballad in water-colours; but such a ballad is far more contenting to the mind than a line or two cut out of an epic such as "Roslyn Chapel."

Justice to other demands on our columns involves positive injustice to many of the artists whose works will be regarded with much pleasure by the visitors to the Institute. Here, as we think in every exhibition this year, the mean level is more closely kept,—we do not mean a paltry level,—than perhaps has previously been the case. If artists were to be classed by marks, like students at a competitive examination, the average number of marks would show an increase on former seasons, with fewer exceptionally high numbers, and many fewer very low ones. In landscape we have some fine works. Look, for instance, at "The Carrara Mountains from Spezia" (143), by C. Vacher, lost in a misty purple haze. A still deeper veil of the same southern tint is cast over the "Evening on the Nile" (103), by the same artist, with its weird details of Saracenic architecture cutting on the sky. The distant mountains in the view of the "Lago di Garda" (30) form another lovely scene—a complete picture, not a mere scrap of landscape. The view from "The Arab Tombs Desert, South of Cairo—the Pyramids of Memphis in the Distance," for the contrast of life and of repose, of bright colour in the stirring bustle of the Arabs, and misty harmony in the far expanse of the eternal desert, grey with the more than "forty centuries" that brood over the Pyramids, is very fine. "The School at Thebes, Egypt" (159), by Carl Werner, with fiercer colour than the views we have referred to, is a perfect miracle in its mere depiction of stone work. Mr. John Absolom's bright sketch of "Sir Roger de Coverley" (217), almost disarms criticism by the pleasant sentiment of the good old country scene, and the glow which lights up the old-fashioned ball-room, which is, however, far brighter than the three chandeliers, aided by the fire, could have produced. If part of the time spent on the other eight contributions of this artist had been devoted to a higher finish of this pretty sketch, it might have been better for everybody.

We can only add, from among a number of other marked pictures, a word as to Mr. Augustus Bouvier's "Garland Makers" (79). The scene, the arrangement, the black background, are evidently taken from Pompeii. The three lovely girls, in their tender buff and peach-coloured dresses, are not, however, Campanian, but French,—French with the marks of English culture on the mouth. Nothing is more striking to a *connoisseur*, on return from a long stay abroad, than the indescribable effect of cultured grace given as a general rule by the outlines of the lips of educated English women; it is a charm peculiar to our island. Mr. Bouvier's larger picture, marked perhaps rather more by classical sentimentality than by classic sentiment, is also pleasing; but we confess, in spite of criticism, to such a lingering partiality for the "Garland Makers" as to wish to leave the Gallery with their pretty faces and figures fresh on the memory.

PAROCHIAL ASSESSMENTS.*

Mode of Valuing Property liable to be Rated. There are two estimates required by the statute 6 & 7 Wm. IV., c. 96, which regulates parochial assessments, viz., "*gross estimated rental*" and "*rateable value.*"

The former is the rent at which the property might reasonably be expected to let from year to year, the tenant paying all usual tenant's rates and taxes and tithe commutation rent-charge (if any), the landlord bearing the cost of repairs and insurance and other expenses (if any) necessary to maintain the premises in a state to command such rent. The *rateable value* is so much of the *gross estimated rental* as remains after deducting therefrom the probable average annual cost of the repairs, insurance, and other expenses necessary to maintain them in a state to command such rent, as aforesaid.

The actual words of the statute are very simple when understood; but, it is probable that no words in any statute were ever more misunderstood, or ever caused more confusion and gave more trouble than they did. They are as follows:—

"No rate for the relief of the poor in England and Wales shall be allowed by any justices, or be of any force, which shall not be made upon an estimate of the net annual value of the several hereditaments rated thereunto; that is to say, of the rent at which the same might reasonably be expected to let from year to year, free of all tenants' rates and taxes and tithe commutation rent-charge (if any), and deducting therefrom the probable average annual cost of the repairs, insurance, and other expenses (if any) necessary to maintain them in a state to command such rent."

Soon after the passing of this statute, viz., on the 3rd of March, 1837, the Poor-law Commissioners issued a circular defining gross rent as the rent which would be paid to a landlord who himself undertakes to pay all the usual tenant's rates and taxes with which the hereditaments or premises rented by the tenant are chargeable, together with tithe commutation rent-charge, the expense of upholding the buildings in tenantable repair, insurance against loss by fire, and any other expenses, if any shall exist, necessary to maintain such hereditaments in a state to command such gross rent. Net rent they defined as the amount which is received by or which remains clear in the hands of a landlord after all such taxes, charges, and expenses, as are above enumerated, shall have been provided for.

Acting upon these definitions, many surveyors included in their estimates of gross estimated rental the whole of the rates and taxes usually paid by the tenant. For example, in the case of a house worth 100*l.* per annum to a yearly tenant, the rates and taxes upon which amounted to 20*l.* per annum, and the average cost of insuring, repairing, and maintaining the property 20*l.* per annum, they called the gross estimated rental 120*l.*, the rateable value 80*l.*

So far as regards the mere payment of poor rates no injustice was done to the ratepayer; but, in the case of other uses made of the gross estimated rental, it became apparent that the intentions of the Legislature had been misunderstood; moreover, valuations so made seemed to estimate the value of property in a parish unfairly and unnecessarily high. It very early became the practice to disregard the instructions of the Poor Law Commissioners, and to omit all consideration of rates and taxes in making valuations; and, in 1859, the Poor Law Commissioners were advised by the then law officers of the Crown (Sir Fitzroy Kelly and Sir Hugh Cairns) that the term "gross estimated rent" meant the rent at which the property might be expected to let, the tenant taking the burden of rates and taxes and tithe upon himself. In other words, they were of opinion that the word "free" in the statute must be considered as referring to rent and not to hereditaments.

An attempt was made in the Union Assessment Committee Act, 1862, to remove the doubts which had existed; but without much success, so far as ordinary ability can comprehend it. Nevertheless, the opinion of the law officers in 1859 is now universally acted upon and generally understood.

It must always be borne in mind that the rateable value is not the actual rent at which a property may be let; but that rent at which, after taking all things into consideration, it might reasonably be expected to let. Moreover, it must be remembered that the circumstances to be taken into consideration in estimating the value must always have reference to the period at which the valuation is made.

A house which, on the completion of a railway or some other public improvement, will be worth 100*l.* a year, may, at the present time, be worth only 50*l.* a year. While it is worth 50*l.* it must be assessed at that sum only; but, as soon as the improvement takes place, the assessment must follow the increased value. Again, the rent reserved in a lease may not be evidence of rateable value. A property may possess a gradually increasing value, extending over many years. A lessee, in agreeing to pay a fixed constant rent, would average those circumstances. The rate must be made on an estimate of the annual value from time to time; low, when that value is small, and higher as it increases. Again, property may, from unforeseen circumstances, increase or decrease in value during the term of a lease. If it should increase, it would be unfair to the other ratepayers, who might not be similar lessees, if the assessment upon it were not increased; and, if it should decrease in value, it would be unfair to the lessee not to decrease the assessment. The term from year to year must not be misunderstood, as it sometimes is. It does not mean a letting for a year only, nor a letting on a yearly tenancy; but it means that changeable circumstances must be taken into account from year to year as they arise.

Valuation of Agricultural and Accommodation Lands.—In addressing the Institution of Surveyors, it is quite unnecessary to attempt to explain the mode of valuing agricultural or accommodation land. Nevertheless, it is well to again point out that the rateable value is not the rent actually paid either on a yearly tenancy or under a lease; but, that it is the rent which, all things considered, a tenant might be reasonably expected to pay for the year next following the making of the valuation. The late Lord Denman, whose judgments were always as clear as it is possible for judgments to be, in delivering judgment in the case of a *brickfield appeal*, says:—"It may well be that, although at the end of the year the lessee has made so many bricks that he can afford to pay 150*l.* in royalty to his landlord, yet he could not prudently at the beginning of the year, contract, at all events, to pay more than 100*l.*, and if so the latter rather than the former will be the sum at which the land may reasonably be expected to let from year to year."

So, in the case of accommodation lands, a piece of meadow land may be situated in the middle of another estate and in front of the

* By Mr. Edward Ryde. See p. 341, *ante*.

drawing-room windows of the occupier's house. It is reasonable to suppose that in such a case the occupier of the house would give more rent for the meadow land than its value for agricultural purposes would justify; and, therefore, it possesses a corresponding rateable value; but, if such land becomes by purchase a portion of the other estate, it then possesses no greater rateable value than the adjoining lands, of which, in fact, it has become part. Small pieces of land adjoining a town will often let at rents quite disproportioned to their agricultural value, and their rateable value is such a rent as they may, in that way, be reasonably expected to fetch, notwithstanding that exactly similar adjoining lands which form part of an adjacent farm can only be reasonably expected to let at their agricultural value.

The difference between the gross estimated rental and the rateable value of land is very small, and, in practice, it has hitherto, for the most part, been disregarded; but the Valuation (Metropolis) Act, 1869, fixes the allowance, in metropolitan districts, at 5 per cent., and, therefore, it is presumed that such an allowance will very generally be made in all places in the future. It may be mentioned that, in the case of lands subject to tithes, the amount of the rent-charge should be deducted from the estimates of both gross and rateable value, the tithe rent-charge being itself rateable as a separate hereditament.

Valuation of Houses.—The *gross estimated rental* of a house is that rent which a tenant might reasonably be expected to give for the right to occupy it for one year, assuming that the landlord bore the expense of insuring, repairing, and upholding it. The *net rateable value* is the rent which a tenant might be reasonably expected to pay, who took upon himself the expense of insuring, repairing, and upholding it.

The *rent* is the rent to be expected for the year following the making of the rate; but the allowance for *repairs* is to be the probable average annual cost. To give but one instance: general painting, which occurs only once in seven years, is not to be allowed in the year in which it actually is done to the exclusion of all other years; but a fair average annual charge on account of it is to be taken. In addition to the allowance in respect of indispensable repairs, an allowance is to be made in respect of contingent or future renewals. In the case of the Queen *v.* Wells (Law Reports, Q. B. Cases, vol. ii., p. 548), the most recent decision upon this point, Lord Chief Justice Cockburn stated that there seems no distinction in principle between a sum annually laid by to make good, when it shall become necessary, an inevitable loss by the destructive agency of time, and a fund laid by for an indemnity against a loss by fire or storm, or other peril, insured against.

Valuation of Farm Homesteads.—In estimating the rateable value of farm homesteads, several matters have to be taken into consideration. For example: the buildings may be very much in excess of the actual requirements of the lands of a farm; but it is obvious that a tenant can only be reasonably expected to pay such a rent as the buildings which he actually requires would command. Even that rent may have to be diminished instead of increased, from the fact that the repairs and insurance of the larger buildings are more costly to the tenant than the repairs and insurance of buildings of the proper size would be.

It may, however, happen that the occupier of such a farm may also occupy, as a separate rateable hereditament, land, either wholly without buildings, or otherwise deficient in that respect, in which case the rateable value to him of the buildings previously alluded to will be increased.

Valuation of Trade, Premises, Mills, Factories, &c.—In estimating the value of trade premises, such as a factory fitted up with machines, a foundry with furnaces and forges, or a brewery with fixed steam-engines and vats, the value of the machinery as enhancing the annual value of the freehold, of which it forms part, is to be taken into consideration.

An important decision in respect of the rating of mills was given in the case of Staley and Another *v.* Castleton (33 L. J., M. C., p. 178). The mill was fitted to its full capacity with the machinery useful and necessary for a cotton-mill; a steam-engine was fixed for the purpose of turning the machinery, and steam-pipes from the boilers were carried through all the rooms in the mill for the purpose of warming them. Some of the machinery was fixed to the floors in order to its steadier working, while, in other instances, it was merely placed upon the floors of the mill. According to the custom of the trade, the machinery was in the nature of tenant's machinery, or fixtures. Before the American war, the property had been of considerable annual value as a cotton-mill; but, in consequence of the state of trade during the war, the mill was closed. Nevertheless, the machinery was kept in it, and a man was employed to attend to the fires for the purpose of keeping up a proper degree of warmth, and to keep the machinery in a state of repair.

The Court held that the mill was thus used as a storehouse for the valuable machinery that it contained, and was to be valued for assessment to the extent of the rent which it would command as such storehouse.

Following this decision came another important case, Harter *v.* Salford, 34 L. J., M. C., p. 206). The appellant for many years carried on the business of a silk manufacturer; but, in 1863, he gave up business with the intention of never resuming it. The mill and premises were advertised for sale. The decision was that, although not in use as a mill, the buildings were to be valued as storehouses for machinery.

Hotels, refreshment-rooms, Epsom and other race-stands, canteens, and similar trade premises, which, by reason of their special situations, command rents in proportion to the extent of the trade which can be carried on in them and nowhere else, must be valued in connexion with their trade receipts, *i. e.*, from the gross receipts must be deducted the working expenses necessary to earn the receipts, allowances for trade profit to the tenant, for interest on the capital which he must necessarily employ, and for risks and casualties. The balance is the rent which he may reasonably be expected to be willing to pay to his landlord as rent.

In valuing all descriptions of house property, the question constantly arises,—is cost ever the measure of the rateable value of property? In giving his decision in the Mile-end Old-town case, Lord Denman says, "The outlay of capital might furnish no criterion of the rent a property should yield, since such capital may have been injudiciously expended, and what was costly may have become worthless by subsequent changes." It should be observed that Lord Denman did not there say that cost was never the measure of value, and, obviously, it sometimes is. Assume, for example, that the guardians of a Union are in want of a workhouse, and that some landowner within the Union is possessed of a building exactly suited for such purpose, but that he requires a rent of 1,000*l.* a year for it. The guardians find, upon inquiry, that they can build a new workhouse and provide the land at a cost of 10,000*l.*, and that they can obtain the money at the rate of 5 per cent. per annum, which will equal a rental of 500*l.* per annum. They elect to take the latter course and build the workhouse, the rateable value of which is 500*l.* per annum, because that sum is the highest rental which it would be reasonable to expect them to give. Assume, however, on the other hand, that the landowner was unable to get a tenant for his building, for any purpose, at a higher rent than 250*l.* instead of 1,000*l.* a year, and that he therefore would be willing to let it to the guardians at 250*l.* In this case the rateable value would be 250*l.* per annum only, because it would not be reasonable to suppose that the guardians would pay for any other similar building a higher rent than that at which they had been able to take this from the landowner.

In estimating the rateable value of bridges, as in the case of railways, it does not follow that any direct receipts arise in the parish which is the subject of the valuation. The case of the Queen *v.* The Hammersmith Bridge Company is one in point. It was there held that, although the whole of the receipts were in the parish of Hammersmith, yet the bridge itself was the direct source of the rateable value, and that such net rateable value, when duly ascertained, was to be apportioned between the parishes according to the length of the bridge in each.

Valuation of Tithe Rent Charges.—The rateable value of a tithe rent-charge is the rent which a hypothetical tenant might be reasonably expected to give for it annually, such tenant having to pay the usual tenant's rates and taxes upon such tithe rent-charge and to derive some remuneration for his time and attention in collecting it. (Queen *v.* Capel.)

In the case of a clergyman, whom by reason of the number of parishioners and the value of the incumbency the bishop of his diocese could compel to keep a curate, the reasonable salary of such a curate was, in the case of the Queen *v.* Goodchild, directed to be allowed; so also in the case of the Queen *v.* Lamb, where the duties of the incumbent were greater than one man could perform, the curate's salary was directed to be deducted; but, this allowance for a curate has, by the recent case, the Queen *v.* Sherford, been overruled, so that it must now be taken that such a deduction cannot be allowed.

Valuation of Coal-mines, &c.—Coal-mines, brick-fields, clay-pits, slate-quarries, &c., which involve the removal of portions of the soil, must be valued according to the rent and royalty which it is reasonable to expect the occupier would pay the landlord for that species of occupation. In the case of the Queen *v.* Westbrook it was held that a royalty so paid must be considered as a portion of the rent.

Valuation of Saleable Underwoods.—Saleable underwoods must be valued at the rental at which they might reasonably be expected to let, according to the quality of the wood and the situation of the land.

The valuation of railways, gas, and water works involves considerations so special that the subject is reserved for a separate paper.

MODERN PARIS.

AMONG the improvements of Paris which are postponed for the present is the continuation of the Boulevard Saint-Germain, which it was proposed to extend from the Rue Hautefeuille to the Rue Saint-Dominique.

As some compensation, however, works are being rapidly carried on near the Port Saint-Paul for the new bridges which are to connect the easternmost point of the Ile Saint-Louis with both banks of the Seine. These two bridges, with the piece of roadway lately formed on the island on the site of the gardens of the Hôtel Bretonvilliers, will serve as connecting links between the Boulevard Saint-Germain and a new street which is to open out upon the Place de la Bastille. This latter street, which runs into the street first described, will be 30 mètres (98 ft.) wide, and its axis will be an imaginary line drawn between the dome of the Panthéon and the Column of July. It will cut at an angle the promenade in front of the Boulevard Morland, skirting the Barrack des Celestins, crossing the Rue de la Cerisaie, shortening the Rue Castex, running across the Rue Lesdiguières and the Rue Jacques-Cœur, finally emerging on the Place de la Bastille at a point which was marked out last year. The new street, passing through the ancient *quartier de l'Arsenal*, which was called in the time of Francis I. the *Champ au plâtre*, will very considerably alter the features of this distant portion of the fourth *arrondissement*. In the Rue de la Cerisaie, it will obliterate what little remains of the sixteenth-century house built by the architect Philibert Delorme for his own residence; and will also destroy some of the buildings belonging to the Hôtel Lesdiguières, where Peter the Great lived during his sojourn in Paris in 1717. This hôtel, having been sold by auction in the year 1760, was bought by some speculators, who built the Rue Lesdiguières upon the garden.

The continuation of the Boulevard Saint-Germain (on the right bank of the river), which will be called the Boulevard Henri IV., cuts obliquely through the gardens of the Palais St. Paul, and just touches the western point of the ancient Ile Louviers. The Ile Louviers, now joined to the right bank of the Seine, was named after Nicholas Louviers, *prévôt des marchands*, in 1468.

A committee is now sitting to discuss the desirability of constructing a new street 12 mètres wide between the Rue Montmartre and the Rue Saint-Fiacre.

The Government finance committee inspected last week the works of the New Opera House. Besides the amount already allocated for the purpose, the committee decided to appropriate a sum of 20,000*l.* to complete the building, and the works are to be pushed on with all possible despatch.

Those who have not explored the interior of the Palais de Justice in Paris can form but a very imperfect notion of its extent, and little imagine the numerous relics of bygone times which are entombed below the present surface of the soil. The extraordinary manner in which the ground becomes raised in the neighbourhood of ancient

buildings is familiar to all who take an interest in archæology, and the Palais de Justice forms no exception to this general rule. In order, however, to appreciate the enormous difference of level between the present surface of the ground and what it was at the time the first buildings on the site of the Palais were commenced, it is necessary to place oneself below the level of the *terre-plein* of the Pont Neuf, on which stands the statue of Henry IV., in order to estimate the height of the quays and the elevation of the ground above the low water-mark of the Seine.

As the superstructure of the Palace of Philippe Augustus and Saint-Louis was raised on the remains of buildings of the Roman era, the foundations of this edifice were below the level of the river, and the ground-line was level with the shore. In spite, however, of the ravages of fire and the numerous repairs and alterations which from time to time have been executed to the building, the ancient ground-floor has, thanks to the raising of the ground all around, been preserved in a remarkable manner, and now forms a kind of basement under a portion of the palace, and is in very good preservation.

If, in passing by the quay which runs on the left of the Conciergerie, you look through one of the small square windows, which are placed almost upon the ground, you perceive a kind of crypt, supported upon columns, with semicircular vaults. This is the basement story of the famous *Salle des Pas Perdus*, and is all that remains of the original building. The *Salle des Pas Perdus* having been destroyed by fire in 1618, was rebuilt by Louis XIII., under the direction of the architect Jacques Desbrosses, who, as was the fashion in those days, instead of attempting to restore the ancient features of the palace, swept the whole of the upper part away, and carried out the rebuilding in the Italian style. The basement having escaped the fire, was not rebuilt, and remains almost intact. By the side of the Quai de l'Horloge is a vaulted room, about 53 ft. square, the roof carried by nine columns, with four enormous fireplaces, nearly 15 ft. wide; one at each angle. This chamber is popularly called St. Louis's Kitchen, and belongs probably to the end of the thirteenth or the beginning of the fourteenth century. The arch over the chimney openings forms an obtuse angle on plan, and the keystone is strutted in a very curious manner against a column in front. A plan and perspective view of this building are given in Viollet-le-Duc's Dictionary, pp. 475–6. Le Duc believes that this kitchen had originally two stories, the lower story,—that which has been preserved,—serving for the retainers, and the upper one for the king's table.

To the right of the Conciergerie some buildings of a Gothic character are now going on, which are intended to connect the *tour Montgomery* with the *tour Bon-Bec*, which latter has been entirely re-modelled. In carrying out these works the ancient buildings of the time of St. Louis surrounding the courtyard of the Conciergerie, formerly used as cells for prisoners, have been respected.

In this courtyard are the dungeons of the unhappy Marie-Antoinette and the celebrated *salle des Girondins*, the interiors of which have been carefully preserved. The outside casing has, however, undergone some modifications, as well as the lower courses of the front next the quay, as far as the *tour de l'Horloge*.

The height of the Church of Notre Dame de Paris has been lately ascertained, and an inscription recording it has been engraved upon a metal plate fixed at the north-west angle of the building, about 3 ft. from the ground. The following are the particulars. Height above the mean level of the sea, 35 m. 99 c. (117 ft. 9·425 in.); height above the water level at the Pont des Tournelles, 9 m. 74 c. (31 ft. 10·516 in.); height above the datum level of the capital, 65 m. 50 c. (214 ft. 4·363).

As a point of comparison, it may be mentioned that the top of the spire of Strasburg Cathedral is 142 m. (462 ft. 8·727 in.) high from the ground. The distances on the *routes impériales*, which were constructed, for the most part, during the long reign of Louis XV., are all computed from the west door of the Church of Notre Dame. A column of bronze gilt, similar to those employed by the Romans in their forums for a similar purpose, is about to be erected in front of the doorway at the actual point from which these measurements are taken.

Apropos of marking the houses inhabited by distinguished men, the Municipal Council of Mâcon have determined to affix a black marble commemorative tablet on the front of the house in the Rue des Ursulines, in which Lamartine was born in 1790.

SOCIAL ASSOCIATION.

THERE lurk in the breast of every man some ambitious longings. They may be silent, they may be trumpet-tongued; his goal may be afar off, the path rugged, the mountain steep; ere reaching it he might have to skirt bogs, avoid crevasses, but he still bears onwards, though sometimes driven from his path. We, I take it, have ambition—I hope noble; we have been toiling, may-be silently, for many a year, driven to many a shift, crushed, dispirited almost, but still unsubdued. We could exist upon the margin of any swamp, we could remain inert at the brink of any precipice; but our mission would be unaccomplished. We must still on: to stop is to recede, for the world moves forward; a step not taken is a step irretrievably lost. Such is the journey of life. In this journey we often require assistance, advice, a cheerful word; but fellowship, good fellowship, is that which smoothes the road and diminishes the hills. Social intercourse is a vast stimulus. We are borne on our way easily and without effort if we have good companions; with these we live, we do not simply exist. We travellers, therefore, having met upon the road, fall into conversation. We fear, from what each says, that a vast deal of existence has been done and is doing. The pathway being difficult, may I say dangerous, is uninviting to a solitary traveller. He fears he can make little or no way. One has lost his chart, one his compass, one his weapons, one his cash; but between them they can muster all the necessaries of travel. So long, therefore, as they are bound in the same direction, they determine to lend each other aid and enliven the journey by sociality and brotherhood. Along this paper, as along the journey, I am continually falling—into metaphor. But in all societies these bandings together are continually occurring, under different names, for very different purposes.

A good answer to the cowardly query of what is the use of living, since we are so ephemeral,—since we cannot live longer,—is this, that if we lived to a million we should still be as far off eternal existence here on earth as now, and at the end of the million we should wonder at the shortness of this "transitory life." But, in the words of a deep thinker, "Why should the present race of mortals monopolise the blessings of existence, after they have had their share in the business, the enjoyments, the miseries of life. Is it not reasonable that they should be removed from the stage, to give place to others who may taste the same pleasures?" In so far as the wisdom and goodness of the Almighty are concerned, these attributes, we may safely affirm, are more conspicuously displayed by his giving life to these countless millions of animated beings than if the blessings of life were confined to the existing generation of men and animals.

As things are at present ordained, by the wisdom of the Almighty, countless myriads of creatures appear in succession to taste the blessings of existence, or to celebrate their Maker's praise. Nay, the dispensation of death, which we so generally deplore, furnishes scope for some of the purest pleasures which man can experience here below; for the constant waste of the species is supplied by children born in our own image, in whose happiness we are deeply interested, whom we view as our representatives to other generations, and in whom our lives are so bound up that death can scarcely appear even a natural evil, when we have transmitted, as it were, our existence and our comforts to others, whom we love as our own souls.

Take time by the forelock in all things; never let go your hold, hang on like grim death itself; for, once you relax your grasp of that grizzled bit of hair, hundreds of ready hands are there on the instant to take your place. Alas for that man whose heart is willing, but whose flesh is weak! He retains his hold, may be; he feels, drop by drop, his strength ebbing from him; but a rude jostle, a sigh, and the poor struggler drops behind, and is for ever lost sight of and forgotten. But stop; see, there is a strong arm stretched forth, the fainting man is supported, a cheerful voice advises courage, words of hope are spoken, temporary assistance rendered, and the worn and drooping traveller recovers strength and spirit. His preserver lives two lives instead of one; the good and ready deed of his has not only been the means of preserving to the world a fellow-creature, but he has gained confidence in himself, and, let us hope, a willing ally.

All men are pretty well ballasted with the cares of this life; many can hardly keep afloat; any legitimate means we can use for the lightening of these storm-tossed backs the better. Oftentimes, when these means are effective, most extraordinary phenomena occur. We will suppose a witty lecturer exerting his influence upon these craft; he need not have been at work long before the waters of life seem all in motion; one vessel bobs up against another; this one pitches and rolls, as if not a grain of care were aboard to steady her, and the whole fleet present looks like a mass of rolling, rollicking porpoises, who care neither for wind nor tide, and whose hulls are so light as to have little immersed in the waters. Now, this lightening of the cares of this life invariably takes place where numbers do congregate for discussion, for friendly intercourse, for mutual amusement; all such meetings ought, therefore, to be encouraged. It is by intercourse with each other that ideas are exchanged, creeds propagated; anything which tends to discountenance these gatherings is an evil to be eradicated. Man is, above all the animals, sociable; and it is when in company that he fully indulges in that one attribute which he possesses exclusively, so it is said,—laughter. It is when mixing with others that he can show his generosity, indulge his hospitality, prove his valour, exhibit his sympathy, exercise his charity; not one of which he can do locked in a place by himself. That man who is in such a position as to be debarred this intercourse with his fellows, has but a sorry existence; he is a wheel out of gear; his aspirations, hopes, longings, finding no healthy outlet, are as daggers turned against his own breast. He is stabbed to the heart, and although no wound may be visible, the internal hemorrhage may be none the less fatal. How soon such a one's mind is apt to become morbid; and instead of putting forth green and vigorous shoots of knowledge, grows only rank and worthless weeds of distrust and discontent. How gloomily does he view life and its surroundings; with what regret does he look to the past, with what hopeless despair does he look to the future. Hope is the great mainspring of action—"*Dum spiro spero.*"

Life, however one may look at it, is always shifting, no matter whether we view certain phases of it in the cottage or the palace, in the metropolis or in the village. As the seasons alternate, as the waters of the ocean ebb and flow, as the pulse of man throbs, as the rivers of his blood alternately swell through his veins and thence into his heart, to be again propelled through the ramification of his system of arteries, so does the apparent life of society ebb and flow; and, to carry out the great laws of nature, it should be so. Ever and anon some great social agitation takes place: something has to be remedied, something taught. Now local government is at fault, great Bumbledom has achieved something so outrageous that society cannot possibly shut its eyes to the blunder. Local government has to be governed, societies are started, meetings held, and a vast amount of talking done. Whether from the sins of Bumbledom having been wiped out, or from love of change, a new subject is soon started, and people exclaim, "Ah! I said it wouldn't last; I knew the matter would die a natural death;" leaving all to imagine the subject ought to have been murdered, or have had a perennial existence.

Bumbledom might not be in disrepute, but our greatest blessing, the working man, might. He might have exhibited a depth of ignorance and depravity so unfathomable as to appal the stoutest heart. Society sets about reforming him in the most agreeable manner. He has had mechanics' institutes, he has had schools provided for his children, he has had Paradise set before him if he would only stretch forth his hand to take it; but we discover we have been dosing him with too heavy food; his stomach is not fit for such rich viands as we have in our good-natured ignorance put before him; he must be looked upon as some shipwrecked mariner who has been for months without sufficient nourishment, often without any,—he must therefore be treated accordingly. His diet must be of the lightest kind, and given just when the system is capable of digesting it. The treatment is no sooner prescribed than your good-natured public carries it out to the letter; and, like the tale in

the "Arabian Nights' Tales," the cork is no sooner out of the vessel, than the whole place is filled with the good or evil genii. The public, whom I will call the Fisherman, is soon appalled by the magnitude of the giant he has let free, he fills every place, and threatens at no distant time to swamp, or, in other words, clear the Fisherman off the face of the earth. After some little talk, this grand agent is induced to get into the bottle again, and then your B. P. or P. F. (poor Fisherman) claps the cork in, and the danger is passed for the time. Now this formidable affair, which the P. F. might have let out of the bottle, may be "lectures for the working man," "working men's societies," "six-penny benefit societies," or "penny readings." Such things come regularly on the flood of social life, and all tend to a good end. Oftentimes in a small place, when the working man has taken up his share of attention, has been fêted and feasted mentally, the donors of the feast are sometimes induced to look upon themselves, and to discover that *they* are capable of improvement; nay, I say very capable. Up springs a debating society, an orpheonic club, a didactic society, a beef-steak club, or a whist club; all serve a purpose,—they serve to make life life and to lighten existence. For the class of ne'er-do-weels, or grumpers, to say that because such things have but an ephemeral existence, they answer no purpose, is to prove that they have not thought over the matter. All these movements are good in themselves, and show a healthy tone in society. Some movement or other in a small place is absolutely necessary, both for the physical and mental health of many. Without some such incentive to action the mind and body both become rusty; and although directly all such movements may not be philanthropical, they must by no means be condemned on that account. Indirectly they may be the source of much good. The way to keep our unions empty, and to turn our gaols into storehouses, is to teach health of body, and to put the poor man in the way of obtaining and keeping it. It is from our over-crowded, pest-ridden, fever-stricken dens that a seething army of criminals is belched forth. Sickness brings want, breeds ignorance, fosters crime. Your strong, healthy, hale man never turns foot-pad or pickpocket: it is the scrofulous half-fed, spiritless coward who filches and robs; and his children,—for children are born to such,—not only inherit the sins of the father, but his diseases also. Man, I take it, is not naturally vicious; his vices are taught; and hence, give him health and strength, he will get his living honestly. Any one to live, as I understand it, must have health; and at the present day the laws which govern this greatest blessing are so well known as to render any one culpable who neglects them. The man who is a confirmed invalid has but a sorry existence himself; he is generally unfitted for this work-a-day life; he is incapable of performing those duties which should devolve upon him; he becomes something less and something more than a cypher. As Longfellow sings in the "Blacksmith," let us,—

> "Each morning see
> Some task begun; each evening see its close;
> Something attempted, something done, to earn a
> Night's repose."

Or, as it is even more beautifully expressed in one of the odes of Horace:—

> "Lord of himself, to whom
> 'Tis given to say, as each day ends, 'I have lived;'
> To-morrow let the Sire invest the heaven
> With darkest cloud or purest ray serene;
> He mars not what has been,
> Nor from life's cloud blots out one fleeted hour."

M. U.

A CONCRETE FROM GAS LIME.

It is well known that gas companies turn out of their works a quantity of lime which has absorbed certain impurities from the crude gas. Hitherto, the only use found for this offensive smelling gas-lime, has been the very limited one of spreading it on the land and at the roots of trees for killing insects hurtful to vegetation. Of course this is out of the question in the case of the large City gas-works, whose plant is too far removed from fields and orchards, and, although it is acknowledged that gas can be better purified by lime than by any other material, the trouble of removal of the waste product has forced the adoption of other methods which do not involve so much expense in carriage.

As we mentioned some time ago, Mr. Thomas Prideaux, of Sheffield, has been [illegible] exhibiting blocks of concrete, mouldings, artificial stone slabs for hearthstones, and other objects, all made from this refuse gas-lime; and as it is now the subject of a patent, and promises to furnish a useful material for building [illegible] purposes, a short account of the results obtained up to this time may be useful. The gas-lime is [illegible] ground under edge stones, and presents at first a uniform green colour. In this state it forms the raw material for making plaster or cement of various qualities and capabilities. According to the purpose required, it is used in this state, or it is calcined and ground and mixed with silicious matters. A wall may be covered with a smooth coat, which hardens free from cracks, for interiors; basements may be covered with a dry coat of cement, impervious, it is asserted, to damp, and quite obnoxious, be it remarked, to cockroaches. A hearthstone may be formed, and sets in a few days into a hard block of stone, as well as mantelpieces and jambs, which, without any colouring matter, present a neat and stonelike appearance.

It is remarkable that the peculiar odour of the gas-lime is no longer to be detected when the cement has set. The sulphur compounds are oxidised rapidly, and some of the adhesive qualities of the cement are no doubt due to the formation of calcium sulphate or plaster of Paris throughout the mass of the material in the process of hardening.

A rubble wall can be built up and plastered over to resist the action of water in the interval of a tide, as the properly prepared cement will set even under water. The latter property has induced Mr. Prideaux to propose its use for building sea-walls.

Mr. Baker, of the County Analyst's Office, informs us that a number of houses in Sheffield, where trial has been made of this material, have been visited and inspected since its first application to walls, floors, and hearthstones, now about twelve months ago, and that time only appears to tell in favour of its durability.

ROCK-WORK AND ALPINE GARDENS.

The amateurs who spend small fortunes on hothouse plants, and who generally have not a dozen of the equally beautiful flowers of northern and temperate regions in their gardens, might grow an abundance of them, in and about well-designed and artful rock-built rock-work, with a tithe of the expense required to fill a glass house with costly Mexican or Indian orchids; and to that end a pleasant volume on "Alpine Flowers,"* by Mr. W. Robinson, F.L.S., the author of "The Parks, Promenades, and Gardens of Paris," already noticed in our pages, had better be consulted. "Our botanical and public gardens," says Mr. Robinson, "in which alpine plants are usually found in frames, in obscure corners, or perhaps a few dozen of indifferent kinds on one absurdly-formed rock-work, half hidden under trees and shrubs, or a canvas roller-blind, which, if very properly ashamed of itself, might exhibit a beautiful alpine-garden, at half the expense and trouble they now bestow on some tropical family displayed in a single glass house. In a word, there is not a garden of any kind in the suburbs of our great cities, in which they may not be grown and enjoyed."

Although hundreds of brilliant alpine flowers may be grown with [illegible] a particle of rock near them, yet the slight elevation given by rock-work is very congenial to numbers of the most valuable kinds. The effect of a tastefully disposed rock-garden is very desirable in garden scenery. It furnishes a home for many pretty native and other resting plants, which may not safely be put elsewhere; and therefore it is most important the most essential principle to be borne in mind, when making it, should be generally known.

The chief mistake generally made is that of not providing a fitting place for the roots of the plants that are to embellish the rockwork. In a wild state, alpines may be seen protruding their stems, crowned with dense tufts of leaves and flowers, from very narrow chinks—as narrow, in fact, as those left by the singular structures which we denounce. But if we try to take up the wild alpine, it will be found that its tap roots descend down by the side of the moist stones and under them, and then, perhaps, run on one side under the debris on the other into a fissure of soil or through a mass of broken rocks several feet deep. Now this is impossible in the rock-works generally made. On them even the coarsest British weeds cannot find a resting-place, simply because there is no motherly body of soil or matter into which the descending roots may penetrate, and find nourishment sufficient to keep the plant fresh and bright and well in all weathers. It is not only those who make their "rock-work" out of spoilt bricks, cement, and perhaps clinkers, that err in this respect, but the designers of some of the most expensive works in the country. At Chatsworth, for instance, and also, to some extent, at the Crystal Palace, you see rockwork satisfactory so far as regards its distant effect in the garden landscape; but, when examined closely, it might well be imagined that rock-work and rock-plants were never intended for each other's company, so bare are many of these large works of their proper and best ornaments. It is generally a pavement of small stones, huge masses of rock, or imitation rock formed by laying cement over brickwork, and in none of these cases is it adapted for the cultivation of high mountain plants.

It is quite possible to combine the most picturesque effects of which rockwork is capable with all the requirements for plant-growing; but, in the case of extensive rockwork-making, the owner must either call to his aid a landscape gardener of some skill in this way, or possess much taste and knowledge of the work himself. It is easy to use the largest stones, and make the boldest prominences, and leave at the same time rather level intervening spaces and fissures, in which rock plants may luxuriate; but Mr. Robinson does not recommend ambitious attempts of this kind—at least at first. It requires great taste to do it well, and the higher and bolder the attempt the more conspicuous will be a failure.

The best type of rock-garden is that in which, in addition to low-lying, stony, and rocky banks and slopes, where numbers of hardy and vigorous species may be grown, there are miniature peaks, cliffs, and ravines, with, perhaps, bog and water.

The most usual and deplorable of the faults in making rock-work is that of so arranging the stones that they seem to have as little connexion with the soil of the spot as if thrown out of a cart,—indeed less so. Instead of allowing what may be termed the foundations, or apparent foundations, of the rock-garden to barely show their upper ridges above the earth, and thereby suggesting much more endurable ideas of "rock" than those arising from the contemplation of the bold and unnatural-looking masses usually seen, the stones are often placed on the ground with much the same idea that animates a bricklayer in setting bricks. Figs. 1 and 2 will explain exactly what is meant; both are accurately engraved from photographs; both represent small portions of artificial rockwork; the ugliest of the two was much the most difficult and expensive to make. A few loads of well-selected stones, allowed to peep from some gentle isolated mound or open sunny spot, and arranged as shown in fig. 1, would produce a better effect than several hundred tons placed as in fig. 2.

An important principle to bear in mind in both making and planting is that, as a rule, much more vegetation than rocks should be seen. Where vast regions are inhabited by alpine plants, acres of crag with a stain of flower or fern here and there, are very attractive and imposing parts of the picture, but in gardens where our creations in this way can only be Lilliputian, an entirely different method must be pursued, except in places where great cliffs are naturally exposed, and even in this case an abundant drapery of vegetation is desirable (fig. 3). A rock-work is rarely seen in which plants predominate as much as they ought.

Rock-works made on the margin of artificial water are very often objectionable—rigid, abrupt, unworn, and absurdly unnatural. In no position is an awkwardness more likely to be detected; in none should more care be taken not to offend good taste. Charming effects may be produced on properly made rock-work near water, by planting it with a combination of choice moisture-loving rock-plants, Yuccas, Pampas, Grass, and like subjects; but even the grace and beauty of the finest of these will not relieve the hideousness of the masses of brick-rubbish and stone that are frequently placed by the margin of water.

It is the fashion to make the hardy fernery in some obscure and sunless spot, in which it would be impossible to grow alpine plants, but

* "Alpine Flowers for English Gardens." By W. Robinson, F.L.S. London: Murray. 1870.

there is no reason whatever why it should not be made in more open positions, and in connexion with the rock-garden. No plants adhere more firmly to hard vertical surfaces, or better sustain themselves in perfect health, without any soil, than ferns. In a wild state you find the Maidenhair fern and many other species so rooted into mere little fissures in the hardest rocks, that no effort can get out a particle of root. Some of our own small British wild ferns are found on the face of dry brick walls when they are not to be found elsewhere, growing spontaneously, in the same neighbourhood.

It is reasonable to assume that many ferns which in a wild state frequent half-shady spots would, in our colder clime, flourish best if permitted to enjoy all the sun of our cloudy skies, while ferns that inhabit sunny rocks in countries not much warmer than our own should always have the warmest positions we can give them on the rockwork. And in the case of the species that require shade, it is quite possible to grow them in the recesses of the rock-garden and in deep passages or miniature ravines leading through it, even if a portion be not specially designed as a fernery. (Figs. 4 and 5.)

Rockwork is, as a rule, made for the display of mountain plants, or those which by their dwarfness fall into the class commonly known as alpines. Some cover rockwork with climbing shrubs and dwarf bushes, but in every case, unless where a rock is introduced for its own effect in the landscape, the object is to grow plants. Now, as very few of the subjects above alluded to like shade, or even tolerate it, it follows that this is an ignorant and bad practice. Many persons who arrange such things doubtless fear the sun burning up their plants; yet the sun that beats down on the Alps and Pyrenees is fiercer than that which shines on the British garden. But, while the alpine sun cheers the flowers into beauty, it also melts the snows above, and water and frost grind down the rocks into earth; and thus, enjoying both, the roots form perfectly healthy plants. Fully exposed plants do not perish from too much sun, but simply from want of water. Therefore it cannot be too widely known that full exposure to the sun is the first condition of perfect rock-plant culture—abundance of free soil under the root, and such a disposition of the soil and rocks that the rain may permeate through and not fall off the rocks, being also indispensable.

In connexion with alpine gardens, the masses of rockwork occasionally made of brick-rubbish, concrete, and cement, demand some notice.

There can be no doubt that as picturesque effects may be produced in this way as in any other, and that this variety of artificial rockwork may be admirably associated with shrubs and trees, and vigorous climbing and trailing plants, but it is utterly unsuitable for true alpine vegetation. When properly constructed, care is taken to make the interior of the cemented masses with deep beds of earth, leaving holes here and there in the face of the structure from which plants can peep forth, while the top is left open, and may be planted with shrubs or trees.

One of the simplest of all ways of cultivating alpine plants is in small rocky beds, arranged on the turf of some parts of the garden, cut off by trees or shrubs from the ordinary flower-beds, without any of the pretensions of the ordinary rockwork; one of these will give much greater satisfaction than many an ugly and extensive mass, and by the exercise of a very little judgment is readily constructed so as to not offend the nicest taste.

A satisfactory window rock-garden can be made outside of a window to which light has free access, by forming a miniature alpine garden on the sill. It is simply done by putting a few irregular stones along the front margin, and packing a few small bits of turfy peat or loam inside them to prevent the fine soil, afterwards to be added, from being washed out. Then fill in the hollow with sandy loam, mixed, if convenient, with morsels of broken sandstone. A few mossy or ancient-looking stones should be half buried on the upper surface, and then the whole should be planted, the best time to do this being April. It is not merely possible to keep alpine succulents in this way: it is easy to grow a multitude of the most interesting and beautiful kinds! The attention required is very trifling,—some little taste in forming and planting, a judicious selection of plants, and thorough waterings during the dry season. Small and brilliant spring bulbs might be employed to light up this tiny garden in spring. It would also be desirable to plant subjects of a drooping character on the outer margin. The alpine succulents are all thoroughly hardy, and would remain in good condition during the winter, but a little changing and re-planting every spring would be desirable.

The work to which we are indebted for these illustrations and instructions as to rockwork and alpine gardens has numerous other illustrations and much useful information on the subject generally. The second part of the volume consists of an alphabetical enumeration of choice alpine plants, with full particulars as to appearance, habits, culture, and selections for various purposes.

SCHWÄBISCH-GMÜND.

DOORWAY, CHURCH OF THE HOLY CROSS, GMÜND.

ABOUT twenty miles from Stutgard, on the way to Nördligen, stands the interesting little town of Schwäbisch-Gmünd. The situation of this place is most charming, surrounded on every side by lofty hills, valleys richly wooded, and watered by clear mountain streams. The many towers and spires of Schwäbisch-Gmünd rise up above a belt of rich foliage, and form a picture that is more like a dream than a reality. Upon inspecting the town more closely one is not disappointed, for it is quite full of antiquities and curiosities. Unfortunately the walls have been nearly destroyed, but the gates and towers for the most part still exist, and show by their size and number that the place must have been far more important in the Middle Ages than it is at present. There are many fine examples of timber houses, some of which date as early as the fifteenth century. The Corn Hall, the Hospital of the Holy Ghost, and the *Schmalz* Hall are the most remarkable amongst the secular buildings. We should here mention, for the information of our readers who are unacquainted with the German language, that *schmalz* is clarified butter, which, during the Middle Ages, and even down to the last century, formed the staple commodity of Schwäbisch-Gmünd. The Schmalz Hall is a remarkable building, entirely of stone, with solidly vaulted cellars in two stories.

The Franciscan church at Schwäbisch-Gmünd has been a good example of German First Pointed work, but is so terribly modernised that little of its original beauty is now left. It consists in plan of a large, broad nave, without aisles, and a long chancel, which is about half as wide as the nave. The windows have all been single lancets, except at the east end, which was originally lighted by a triple lancet window (the church is, of course, square-ended).

The doorways are simple, but good. They are treated in rather a singular manner. The base-moulding of the building is carried round them so as to form a kind of framework to the arch. The only portion of the interior which is not modernised is the vaulting of the choir, which is very rich and beautiful, and is supported upon corbels ornamented with very fine early foliage. It is difficult to say how the very broad nave was originally ceiled; at present it has a coved plaster ceiling. It could never have been vaulted, as there are no buttresses, and the walls are of no great thickness. It is to be hoped that this interesting church will shortly undergo as careful a restoration as that which is now being carried on at St. John's.

The great glory of Gmünd is the magnificent church of the Holy Cross. This superb building was commenced in the year 1351, as we are informed by the following inscription on the north doorway of the choir: "*Anno Dom.* 1351 *ponebatur primus lapis pro fundamento hujus Chori XVI. Kal. Augusti.*" The nave, which was the last part of the church erected, was not completed till the year 1410. What makes this church of particular interest to the antiquary is the fact that it was designed and carried out under the direction of the two celebrated architects Henry and Peter von Arler, who also erected the churches of Kulm, in Bohemia; the cathedral bridge, Rathhaus, and gates at Prague; the churches at Nordligen, Hall, and Dünkelsbuhl; and who are amongst the reputed architects of the cathedral at Milan. There was also a third member of the same family, Henry Arler, the younger, who assisted his father Peter in the designs for Milan Cathedral. There is a tradition at Gmünd that the Certosa at Pavia was also designed by a member of the same family; but there seems to be very little foundation for this report; and the fact that the Certosa is so very Italian in character would strongly militate against the idea of its having been designed by a German architect. The church consists of a nave and aisles, the same height and under one external roof, and a choir and aisles also under the same roof. The choir is terminated with an apse, the aisle being carried round the same height. The choir is surrounded by eleven radiating chapels and two porches. There are also transeptal chapels, but as they are low they do not affect the general appearance of the church, which is what is called in Germany a "hallenbau;" that is to say, a hall-shaped building. The nave has eight bays, the choir four. The entire length of the church is about 280 ft., the width of the nave internally 74 ft., and the height to the vaulting is about the same. There are five great doorways—three to the nave, and one on each side of the choir; that on the south side is singularly beautiful (see engraving), and bears a strange kind of resemblance to some portions of the cathedral at Milan, nor is this kind of family likeness between the church at Gmünd and the cathedral at Milan confined to this doorway, for the general effect of the interior of this church is wonderfully like the great Italian cathedral. We have here the lofty side-aisles, the slender columns, and that general look of space and height so remarkable at Milan. In one respect the church at Gmünd is superior to Milan, and that is in the detail, for here there is none of that overloading with ornament, nor do we find that horrible cabbage-leaf foliage which is so offensive in the great Italian church. This is easily to be accounted for by the fact that in Germany Gothic architecture was indigenous, and the commonest workmen understood it, whereas in Italy it was at best only an exotic, and never thoroughly understood; and thus Italian workmen carrying out the designs of a German architect would be sure to give to the detail that clumsiness and want of elegance so peculiar to all Italian Gothic work.

Before leaving this church we must not forget to notice the quantity of beautiful and interesting furniture which it contains. In the north transeptal chapel is an altar with a splendid carved oak reredos, about 30 ft. high; in general form it is a lofty semicircular arch, filled in with a representation of the "tree of Jesse." The figures, which are very numerous, are coloured and gilt, and all the carving is most delicate and beautiful. Above the arch is a series of very intricate canopies; the centre one rises above a crucifix, life-size, on either side of which are the figures of SS. Mary and John. Within the semicircular arch or border, are four seated female figures of great beauty; each has a child in her arms. They are thus explained by Herr Pfilzer, the energetic and learned rector of this church:—"The first figure represents Sarah bearing in her arms the infant Jesus, as 'Son of Abraham;' the second is Mary crowned, with the infant Saviour; the third is Anna teaching the child Jesus to walk; and the fourth is Bethsaba, with Christ as David's son." Above these, in the branches of the mystical vine, are nearly a hundred small busts of prophets and characters from the Old Testament. The exact date of this superb work of art is unknown, but it is probably the end of the fifteenth century. We are informed that this reredos or shrine was originally over the high altar of the church, which would well account for its great size and importance; but that it was removed to its present position in the seventeenth century, on the introduction of the "Roman rite," which requires that the tabernacle should be on the altar.

The chapel, or transept, in which this wonderful altar now stands, formed no part of the original design for the church, but was added by Hans Böllinger (the celebrated architect of the tower of the cathedral of Ulm), after the fall of the two towers which originally flanked the choir of this church. These towers appear, if we may judge from an old picture still in one of the side chapels, to have formed portion of an earlier building, and were Romanesque in character. Over a doorway near this chapel is a complete suit of armour given by the Emperor Charles V. to Rauchbain, who attempted to defend the town against the Schmalkaldic army; and near this latter is a cannon-ball half embedded in the wall, with the following inscription below it, in old German:—

"In 1546, on the 26th of November, in the Schmalkaldic-Protestant league against the Emperor Charles V., John Fredrick, Duke of Saxony, bombarded and took this town of Gmünd, and shot this ball into the church, but the church remained otherwise uninjured. God be praised."

ON MEDIÆVAL TRIPOD COOKING-POTS OR MARMITES.

In Halliwell's "Dictionary of Archaic Words," a marmite is described as a "a pot with hooks at the side." This, however, is hardly a correct definition, a marmite being more properly a metal two-eared cauldron standing on three legs. In the present paper, therefore, we wish to confine our remarks exclusively to the Mediæval cooking-pots of that form, specimens of which have been exhumed at different times in many parts of Great Britain, Ireland, and France.

Tripod cooking-vessels or marmites, appear to have been formerly in common use, and even at the present day culinary vessels, very similar in appearance, are not unknown in certain districts. In shape, marmites "differ from modern iron pots in their greater height and narrowness, and in some examples by the length of the upper member; a few, however, are quite globular. In size they vary from a capacity for holding one quart to nine gallons of fluid."* They are usually made of bronze or bell-metal, though occasionally of iron or brass. Tripod-vessels of this form are generally considered to have been in use between the twelfth and sixteenth centuries, and thus must be classed with relics of the Mediæval period. By some, however, they have been designated "Roman camp-kettles," principally on account of their having been sometimes dug up near the sites of Roman encampments, or other traces of that people. But if we examine the quality of the metal of which they are composed, it will be found to be of an inferior kind to that used by the Romans; also there is in most of these pots a want of classic art, of which, says Dr. Wilson, "the commonest Roman urn or amphora rarely fails to betray some trace."† Besides, it should be borne in mind, that tripod cooking-pots have never formed a part of any hoard of Roman antiquities; and that in the many representations of domestic and other objects on Roman altars, and suchlike lapidary remains, they are entirely unknown. When we add to these objections against their Roman workmanship the fact that Mediæval inscriptions have in some instances been found on these very pots, it seems pretty conclusive that they were used in the Mediæval kitchen for culinary purposes.

A very highly-figured marmite, with inscriptions, was exhibited before the Society of Antiquaries in 1801. It is formed of bell-metal, and probably belongs to the fourteenth century. The ornamentation is at once elaborate and unique, consisting of the symbols of the four Evangelists, various animals, and devices relating to the chase. Round the vessel are the words—

Je su pot de graunt honhur
Viaunde a ferе de bon savhur.

Below we read—

Vilelmus Angetel me fecit fieri.

Three elaborate plates of this marmite may be seen in the *Archæologia*, vol. xiv.

On a gravestone of the fourteenth century preserved in the museum at York, there is a curious representation of one of these pots. A cross fleury extends the length of the stone, and on one side of this cross is a bell, and on the other a marmite. The stone was probably erected to the memory of some metal or bell founder; and M. L'Abbé Cochet concludes, from a figure of a marmite appearing under these circumstances, that in the fourteenth century marmites were as common as bells.‡

Again, with the marmite found at Loges, near Fécamp, in 1845, three copper spoons were discovered, on each of which was engraved a *fleur-de-lis*. This is an additional proof that these cauldrons belong to a post-Christian era.

Of the marmites dug up in Great Britain, that found at Bodidris, in Denbighshire, is very characteristic. Its height is about 10 in., and it holds approximately nine quarts. The body of the vessel is ornamented with three bands of lines set close to each other; and there are also numerous square patches irregularly disposed on its exterior surface. This tripod-pot is made of bell-metal, and was consequently, like all other marmites, cast into its present shape.

Four marmites have been exhumed in Lanarkshire, Scotland. One was found at Pyet Knoll, in the parish of Culter; another on the line of the Roman road, in the same parish; another near to Liberton Church; and the last in Biggar Moss.* Several similar utensils were also found in the Loch of Leys, in Kincardineshire, when the water was drawn off in 1850. They had sunk some 3 ft. into the soft bed of the lake.

In the north of England these tripod cauldrons are not uncommon. One, found in Northumberland, may be seen in the museum at Alnwick Castle. Bruce, in his "Roman Wall," gives an illustration of another, discovered near Haydon Bridge, in a cutting on the Newcastle and Carlisle Railway. This marmite very much resembles those found in France. He also engraves, in plate xvi., "a pan, evidently intended for culinary purposes," with a horizontal handle curved at the end. It has three very short legs.

Of the tripod cauldrons belonging to more southern counties, that found at Shudy Camps, Cambridgeshire, is peculiar. It is assigned to the sixteenth century, and on its side appear the letters N. V. in relief. It has also a long flat handle, like the tripod-pan just referred to. On this handle an inscription has been traced, although not satisfactorily deciphered.

Signs of ornamentation, consisting of circular indentations, may be seen on a similar handle of a marmite discovered at Walton, near Chesterfield, in Derbyshire. This handle is 9 in. long. The pot itself is 7½ in. in height, and 5½ in. in diameter. It is globular in form, with raised cords encircling the body of the vessel. Although by some this cauldron has been called a Roman camp-pot, yet, judging from its very similar make and appearance to those known to be Mediæval utensils, it should be classed with the tripod vessels of that period. A representation of it may be seen on reference to the *Journal of the British Archæological Association*, vol. viii., p. 55.

Another very fine marmite, buried 4 ft. or 5 ft. beneath the surface, was disclosed, in 1860, by some workmen, while digging the foundations of a house at Norwich. It is of considerable size, its height being 2 ft. 9 in., and the diameter of its mouth 1 ft. 2 in. It is a globular vessel, round its largest part measuring nearly 4 ft. For the convenience of transit of so bulky a marmite, "it has a handle projecting at each side of the rim, forming an acute angle." This is probably the largest tripod cauldron hitherto exhumed in this country.

A toy-marmite, about 2 in. high, was dug up many years ago in the parish of Scalford, Leicestershire. It is made of bronze, and is exactly similar in shape to those of larger size. Its practical use for culinary purposes, however, is out of the question; possibly it served as a model, or more probably it was merely a child's plaything. A woodcut of the same size as the original may be seen in the *Gent. Mag.*, Nov., 1861, p. 546.

In the museum of the Royal Irish Academy is preserved a tripod-vessel, or marmite, bearing the date 1640. This cauldron, "of compact, sonorous brass, is one of the largest and most perfect ever found in Ireland; it rests on three decorated feet, stands 26 in. high, is 68½ in. in girth round the widest portion, and 14 in. across the mouth. A large projection attached to the bottom shows where the metal was poured into the mould. The spout is 4 in. long, and the legs 9 in. high."† The date, 1640, stands in relief, and just above it are the letters E. H. It has been suggested that this vessel was used in brewing or distillation, on account of its having a spout, which is not a usual feature of these three-legged pots. This specimen is said to have been found near Macroom, county Cork.

Another marmite, discovered in a bog at Lowtown, county Westmeath, may be seen in the same museum. It is 21 in. in height, and, like the preceding example, formerly had a spout; a piece of metal now plugging up the aperture. Altogether, there are no less than sixteen of these cast metal-pots noted in Sir W. Wilde's catalogue.

A tripod vessel, having a resemblance to the second example already quoted from Bruce's "Roman Wall," is engraved in the above catalogue. It is 6¾ in. high, and has a horizontal handle, bent at the end, 6 in. long. Besides this specimen, we find another represented in the *Dublin Penny Journal*, vol. i., p. 84. It has a similar handle, curved at the end.

One more Irish marmite must be noted. This was found in a bog in the vicinity of Cookstown county Tyrone, and was preserved for a long period at Killymoon. Since then, however, it has been removed to Belfast. Its capacity is 6¾ gallons, and the entire vessel weighs 81 lb. The mouth is 14 in. across, and the internal depth of the vessel the same. Outside, its extreme diameter is 1 ft. 6 in. The thickness of the metal at the bottom of the cauldron is estimated to be ⅜ of an inch.

Marmites are of common occurrence in France. In general appearance they are very similar to those found in our own country, judging from those now deposited in public and private collections of antiquities. There is one in the museum at Nantes which had been deposited in a marsh at Donges; there are also five in the museum at Abbeville. The late M. Houbigant, of Nogent lès Vierges, had two in his collection. One of these was found near the camp at Catenoy; the other specimen came from Riaux, near Liancourt.

In a descriptive work by M. l'Abbé Cochet on the antiquities of the department of Seine Inférieure,* we find notices of nine marmites or tripod cauldrons, all of which he classifies as belonging to an uncertain period. Elsewhere, however, he assigns them to Mediæval times.† The localities and dates at which these marmites were found are—two at Lillebonne in 1836; at Loges, near Fécamp, in 1845; at St. Nicolas de la Taille in 1846; at Tourville la Chapelle, near Dieppe, in 1847; at Val de la Haye, near Rouen, in 1847; at Vatteville, near Caudebec, in 1859; at St. Pierre lès Elbeuf in 1861; and at Ancretteville-sur-Mer, near Fécamp, in 1862.

Of the tripod-pots just mentioned six are preserved in the museum at Rouen; the remaining three being in private collections. With reference to that discovered at Ancretteville-sur-Mer, the following particulars may be interesting. This marmite was dug up in the garden of M. Cadinot, a merchant at Ancretteville-sur-Mer, on the 17th of November, 1862, from a depth of about 1 ft. 8 in. Its height is about 13 in., diameter across the mouth 9 in., and its circumference measures about 3 ft. 1 in. On the same occasion, a copper bowl was found without feet or ears. As to the use of both these objects, M. l'Abbé Cochet considers that by their being blacked with smoke it clearly shows that they had been used as culinary vessels. Both, when found, had their mouths downwards, and covered corroded silver plates. It seems probable that in this instance, at least, the marmite was buried by design in order to protect the valuables that had been placed within it. So, likewise, at Vatteville, and Loges, where bronze candlesticks and other household articles were concealed with the marmite. But, on the other hand, many marmites have evidently been accidentally covered with earth, which would explain why they are so often met with near the surface.

There is but one more individual marmite to which we desire to call attention. It was found in a coffin at St. Maurice de Gençay, according to the manuscript catalogue of the museum at Poictiers, where it is preserved. This, we believe, is the only three-legged pot ever discovered in such a situation. The body of this marmite is almost globular, and a piece of metal, rivetted on the outside, shows where a spout was once inserted.‡

The method of using these tripod-pots is very obvious. All those that we have described, with one exception, stand on legs of sufficient length to allow of a fire being kindled beneath the body of the vessel, without suspending it by its projecting ears. It has been conjectured, however, that a semicircular metal handle was sometimes attached to these ears; but, if so, it is strange that none of the tripod vessels hitherto found have been thus accompanied. The horizontal handles, which belong to a few specimens, are quite of a different character, being something like the handles of common modern saucepans, only flat instead of round. Marmites, with this kind of handle, were most likely intended for a different purpose from those having two ears of the ordinary form. It must also be remembered that these ears are always fixed in such a manner as to allow of the entire vessel being turned over on its rim, if required. Vessels, similar in shape to these Mediæval marmites are still used in many country places for the baking of bread. The method employed is very simple. The cooking-

* Sir W. Wilde's "Descriptive Catalogue of the Museum of the Royal Irish Academy," p. 634.
† "Prehistoric Annals of Scotland." Second edition, vol. ii., p. 498.
‡ *Bulletin Monumental*, 3rd series, vol. ix., p. 316.

* *Journal of the British Archæological Association*, vol. xviii., p. 248.
† Sir W. Wilde's "Descriptive Catalogue of the Museum of the Royal Irish Academy," p. 635.

* "La Seine-Inférieure Historique et Archéologique," par M. l'Abbé Cochet. Paris. 1864.
† *Bulletin Monumental*, 3rd series, vol. ix., p. 316.
‡ *Bulletin Monumental*, 3rd series, vol. iv., p. 9.

pot is first turned upside down over the unbaked loaf, which has been placed on an iron platter on the clean hearth; dry furze and charcoal embers are then piled all over the outside of the vessel, so as to generate as much heat as possible within; and in this portable, yet effective, oven the loaf is soon baked. We are informed that in Cornwall, and probably in other districts of the West of England, this way of baking bread is frequently practised; but the extension of railways, and the consequent spread of modern appliances, would naturally cause this method to become gradually obsolete, although in country nooks and corners these ancient customs and ways of cooking are not likely to die out quickly. In former days, when travelling was a difficult and tedious undertaking, and the provisions had to be cooked on the road, the tripod cauldron was a necessary addition to the equipment of the party, for with it they were enabled to bake their bread and stew their meat with ease and comfort. Hence it is that these tripod-pots have occasionally been called "camp-kettles," and "hunting-pots," the name in each case denoting the use to which they were sometimes applied. The specimen, exhibited before the Society of Antiquaries in 1801, and which we have previously described, was evidently designed for the latter purpose, as the inscription and figures on its side clearly indicate. There can be but little doubt, however, that such convenient cooking-vessels would be used just as frequently in the home-kitchen as in the traveller's or hunter's camp.

In concluding this notice of tripod cooking-vessels of Mediæval times, we have only to express a hope that further specimens of these culinary vessels will soon be made known. That others exist underground is beyond all doubt, and it is even probable that many hitherto undescribed may be hidden away in some of our antiquarian collections. To hunt up such forgotten relics would, indeed, be a praiseworthy and interesting pursuit for the painstaking archæologist.

E. H. W. DUNKIN.

Greenwich.

THE BELLS OF ST. MICHAEL'S, CORNHILL.

THE massive and lofty tower of the church of St. Michael is furnished with a fine peal of twelve bells in the key of C, the weight of the tenor being about 41 cwt.

They all came from the Whitechapel foundry, and bear the following inscriptions:—

1. THOS. LESTER MADE ME. 1746.
2. THOS. LESTER MADE ME. 1746.
3. MAGNIFICAT ANIMA. R. PHELPS FECIT. 1728.
4. JUBILATE DEO. R. PHELPS FECIT. 1728.
5. CAST 1795. THE REVD. THOS. ROBT. WRENCH, M.A., RECTOR. MESSRS. LUCAS BIRCH, PHILIP GRUBB, JOSH. NORVILLE, CH. WARDENS. THOS. MEARS OF LONDON FECIT.
6. EXULTATE JUSTI. R. PHELPS FECIT. 1728.
7. CANTATE DOMINO. R. PHELPS FECIT. 1728.
8. T. LESTER LONDINI FECIT. 1740.
9. SI DEUS NOBISCUM QUIS CONTRA NOS. R. PHELPS FECIT. 1728.
10. TO PRAYERS WE DO CALL
    ST. MICHAEL'S PEOPLE ALL
    WE HONOUR TO THE KING
    AND JOY TO BRIDES DO SING
    TRIUMPHS WE LOUDLY TELL
    AND RING THE DEAD MAN'S KNELL.
    R. PHELPS FECIT. 1728.
11. MESSIEURES ALLEXANDER CLEEVE, JOHN WOOD, THOMAS RILEY, JOHN SHIPSTON, WILLIAM HIDE, RICHARD ROYCROFT, WILLIAM MARSLAND, TRUSTEES FOR BUYING THESE 12 BELLS. R. PHELPS FECIT. 1728.
12. THIS BELL RE-CAST ANNO DOMINI 1795. THE REVD. THOS. ROBT. WRENCH, M.A., RECTOR OF ST. MICHAEL'S, CORNHILL. MESSRS. LUCAS BIRCH, PHILIP GRUBB, JOSEPH NORVILLE, CHURCH WARDENS. THOS. MEARS OF LONDON FECIT.

Richard Phelps, founder of the great bell at St. Paul's, cast these bells, which were rung for the first time on Wednesday, December 4th, 1728, on account of the arrival in Town, from Holland, of H.R.H. Frederick Prince of Wales.

The first, second, fifth, eighth, and twelfth of the peal were subsequently recast, as indicated by the several inscriptions.

This belfry has always been considered one of the favourite places of the Society of College Youths, certain members of which rang a peal of 5,126 Grandsire Cinques here November 7th, 1729; and one of 7,018 February 14th, 1731, conducted by that celebrated composer and ringer, Benjamin Annable, of whose attainments I gave some particulars in the *Builder* of December 25th last. And here I would record an extraordinary achievement. On Saturday, April 27th, 1861, twelve members of the society ascended the tower and rang upon the bells under notice a complete peal of cinques, on Stedman's principle, consisting of 8,580 changes, in six hours and forty-one minutes, being the greatest number of changes rung in that intricate method upon twelve bells. The performers were, H. W. Haley, composer and conductor, treble or first; Thomas Ray, second; John Bradley, third; Robert Jameson, fourth; William Green, fifth; George Stockham, sixth; Jas. R. Haworth, seventh; Geo. E. Ferris, eighth; Matthew A. Wood, ninth; Edward S. Lansdell, tenth; Geo. A. Muskett, eleventh; James Dwight, tenor. Attested by Messrs. Cox, Boswell, and Miller, of the Cumberland Society, and other competent judges.

Respecting the present arrangements for practice, I may add that a band of able ringers—"College Youths"—attend here on the evening of every fourth Friday.

The bells are also rung on certain festival and joyous occasions.

THOMAS WALESBY.

PRINTS AND THEIR PRODUCTION.

IT may be usefully noted that the very instructive collection of engravings produced by all the various known processes, including the most recent inventions in photographic printing, made by Mr. S. T. Davenport, the excellent financial officer of the Society of Arts, to illustrate his paper on "Prints and their Production," are still accessible in the South Kensington Museum. Mr. Davenport has written an explanatory catalogue, which gives additional interest to the collection.

THE TRADES MOVEMENT.

London.—A public meeting of carpenters and joiners of Chelsea has been held in the Eleusis Lecture Hall, Chelsea, in furtherance of the movement for a reduction of the hours of labour; Mr. Matkin in the chair. The chairman said a number of meetings had been held in various parts of London, and resolutions unanimously passed, in favour of a reduction of the hours of labour to nine hours per day, and the adoption of a code of working rules, on mutual terms, binding both employers and employed. The trade was in a very bad position, owing to the number of men out of employment. They did not ask the masters to give ten hours' pay for nine hours' work, as each man under the nine hours' system would give up 4s. 4d. per week, so as to give employment to the surplus labour. It was calculated the adoption of the nine hours' system would give employment to twelve men in every hundred now out of work. The code of rules proposed had worked very well in the Manchester and Salford district, and he did not see why it should not answer equally well in the metropolis. On the motion of Mr. Harry, seconded by Mr. Maclagan, a resolution approving of the objects of the meeting was carried.

Edinburgh.—A meeting of the joiners of Edinburgh has been held in the Phœnix Hall. A new branch of the Associated Carpenters and Joiners of Scotland was formed, and fifty-six members were enrolled. The following resolutions in regard to the wages question were afterwards adopted:—

"1st. That this meeting being satisfied that the present unequal payment of wages is unjust to employers and employed, resolves to take immediate steps in order that all competent workmen shall be paid the standard rate,—viz., 6½d. per hour.—2nd. That a meeting of each shop and squad,—where the standard rate is not paid to competent workmen,—be at once held, and that an answer be requested from the employers to the above demand, the employers' answer to be reported to a meeting of the trade to be held on the 29th, and the demand to come in force on and after the 2nd of May."

Glasgow.—The joiners have gained their points—nine hours a day, and 6½d. an hour. At a meeting of those now working on the nine hours' system, it was unanimously agreed to appoint a vigilance committee for the purpose of carrying out the following motion, viz.:—

"To call on those joiners who are still working fifty-seven hours per week, and remind them that they are doing so against the expressed wish of the trade; also to respectfully request them to adopt the nine hours' system, as contained in the acknowledged rules and regulations; and to inform them that every facility will be given towards this object by applying at the Joiners' Hall, 7, Alston-street, any time during working hours."

Perth.—At a meeting of the Perth Branch of the Operative Masons' Association of Scotland, it has been resolved to discontinue the present strike for an advance of wages from 5½d. to 6d. per hour. One of the last acts of the branch association was to fine forty-two members in sums varying from 1*l.* to 7*l.*, for refusing to continue to hold out for the advance. Only a few of the operative masons are now idle.

A Universal Strike.—A ridiculous and Frenchified idea of a universal strike is said to be entertained by the "Association Internationale des Travailleurs." What would they say to a universal lock-out? Surely our sensible and steady-headed English workmen are not allowing themselves to be made political tools of by those who seem to be as unfit and dangerous leaders in industrial as they are in political movements.

Trade-union Outrages.—At Manchester, Mr. Johnson, builder and contractor, is secretary to the Master Builders' Association. He has been actively engaged in recent trades' disputes, and is personally at variance with brickmakers on account of making bricks by machinery. An incendiary fire has taken place in Mr. Johnston's timber-yard at Ancoats, by which 1,500*l.* worth of stock has been destroyed. An hour later an attempt was made to blow up his house at Levenshulme, several miles distant. A bottle encased in clay, and containing gunpowder, was dashed against his drawing-room window, but rebounded from the framework and exploded harmlessly outside. Four bottles charged with gunpowder have since been found in the grounds. ——That vilest of all conspiracies—trade-union outrage—has also shown itself in Belper, Derbyshire. One of the largest nailmasters there has recently set up three "patent olivers," a great improvement in making nails, and by which, too, almost worn-out men may earn a good living. The horse-nail makers held a meeting, and decided that none of the men employed by this master must work while the "olivers" were used. Forty men were thus thrown out of employ. One man, named Esau Melbourne, continued to work. To mark his defiance of the trade, some of the scoundrels fired two loaded guns through his bed-room window, shattering the window to atoms. Most fortunately Melbourne, fearing danger, had removed his bed into a back room a few days previously.

THE CLERKENWELL COURTS.

THE very objectionable houses in the Turnmill-street courts (Bitt and Frying-pan alleys, Clerkenwell), upon which we have several times reported, were condemned by the medical officer of health, Dr. J. W. Griffith, under Torrens's Act, and have been partly pulled down. We are informed, however, that they are being rebuilt exactly as before, so that persons might shake hands from the windows of the opposite houses. This should be looked into. Cannot the district surveyor or the vestry interfere?

ACCIDENTS.

NEARLY the whole of the village of Broadclyst, near Exeter, has been destroyed by fire, fifty-nine thatched houses being burnt, and only eighteen remaining. The property belongs to Sir T. Acland, whose son, Mr. Acland, made arrangements for supplying the sufferers with food and shelter. It is supposed that the conflagration was caused by sparks from the chimney of an inn which was on fire.

At Bolton, two workmen had been engaged to place a new coping-stone on the chimney of the Bullfield cotton-mill. They had erected scaffolding, and, having hoisted up the stone, proceeded to place it in position. The stone became over-balanced, and striking one of the men on the chest, hurled him to the ground, a distance of 42 yards. It then fell upon and broke the plank on which the other was standing, but he fortunately managed to grasp the ropes and to step upon that portion of the scaffolding which remained intact. The poor fellow who fell was still conscious, and lived for an hour afterwards.

We learn by telegraph that a large fire has broken out in Hull, and is raging with great fury on the north side of Victoria Dock, which for a mile and a half is occupied with timber yards. One-fourth of this length was then one sheet of flame, illuminating the country for miles. Some of the shipping caught fire. Hundreds of men were engaged to throw timber into the dock to limit the fire. One youth was killed. The marines from her Majesty's ship *Wyvern* were called out to assist in subduing the fire, which originated in an adjoining saw-mill which was entirely consumed.

A fearful catastrophe is reported by the Atlantic Cable. The floor of the Court of Appeals in the capitol at Richmond had fallen through to the Hall of Delegates below. According to Reuter's telegram, fifty-nine persons, including a number of members of the Virginia Legislature, were reported as killed, and 150 others as injured. Not more than about twenty remain uninjured. Among those who escaped were Governor Walker, the judges of the court, and several members of the State Legislature.

OUR COMMONS.

THE great importance of preserving the suburban commons and open spaces to serve as lungs for the overgrown and continually extending body of this our London, has frequently been insisted on in our columns; and though everybody readily acknowledges the truth of the position, yet, as it is not the business of any one in particular to look after the matter, the gradual appropriation of huge cantles of land is continually going on, depriving the public of space for exercise and healthful recreation.

From time to time it is discovered that a park is wanted in some particular quarter, and, not having wisely adopted the cheap *prevention* of forbidding enclosure, we are driven to the costly *cure* of purchasing land at building price.

Within a recent period about three-fifths of Wandsworth Common have been appropriated and sold by the lord of the manor, treating the land as if he held it in fee, and not considering that, with the homage, he ought to form an institution for the preservation of the common for the benefit of the copyholders and freeholders and the public, instead of violating every principle forming the essence of the theory of copyhold.

An attempt is now being made to check further encroachment in this direction. Mr. H. W. Peek, M.P. for Mid-Surrey, has undertaken that if a sum of 4,000*l.* can be raised he will supplement it by a further sum of 1,000*l.*, to form a fund for the purpose of instituting proceedings to take up everything irregular which has occurred during the legal term.

This is a matter which interests all classes of society, and none more than the working man,—pent up all the week in a hot workshop. We are informed that a large portion of the required sum has been already raised, and that collections are being made in every large engineering and other establishments.

There is no time to be lost, as the month of June now next ensuing is the period fixed by Mr. Peek for the acceptance of his terms. It is announced that subscriptions will be thankfully received by either of the treasurers, Mr. Jas. Dubuisson and Mr. T. S. Watson, both of Wandsworth Common.

WHO SHOULD KEEP THE DRAWINGS?

IF the time-honoured adage, "*Mos legem regit*," is to exercise, as it should, its wholesome influence over Mr. Ayrton's legal advisers, I may congratulate Mr. Edward Barry on the pervading unanimity between town and country architects with reference to this question. The council of the Manchester Society of Architects, and now that of the Liverpool Architectural Society, are found to be on this question in perfect accord with the Institute of British Architects, widely though they differ in other matters of professional practice.

There is something especially remarkable about this Ayrton and Barry controversy. How is it that we have waited till 1870 to hear (as very many architects will now do for the first time) of its being raised at all? We have all heard of architects carefully hoarding up their old drawings for years—ay, for long portions of a century; of their having them dusted, relabelled, and replaced in their nests or portfolios; and of their making, after very many years, a grand holocaust of the collection; but what architect can remember a case of a client's asserting and persisting in his claim to these documents, *as his own property?*

Writing just now with reminiscences of active architectural practice, extending further back into the present century than I care to own to, I can call to mind only two instances of such an application as this one of Mr. Ayrton's, made in each case with the mere view of retarding the settlement of the architect's claims, and at once abandoned, on the very natural rejoinder, "*Your* drawings have already been supplied—*to your builder*. I have, of course, a set for my own office use and reference, and these documents I do not *supply* to any one." It is, indeed, the natural solution of the question.* If Mr. Ayrton inquires into the practice of architects all over the country, he will find it to be so. Surely there must be (altogether apart from any question of copyright) a time when for his mere 5 per cent. an architect's copying of drawings comes to an end! First, we have the preliminary sketches, till we are all tired of making them; and wise architects limit these very properly to one set. Then come the contract drawings, a set supplied to the builder (or how is he to build?), *and* a set retained by the architect, or how is *he* to build? This latter set he invariably retains. If he ever gives them up, it is done in courtesy, by accident, or from sheer indifference as to what in one's modesty we so often consider mere lumber; but of contract drawings *delivered by right* to an employer,—save for special deposit in public archives, and *subject to payment for the cost of preparing* them,—there are none known in the profession. If there were, should we not have heard of them long ago, and would it not be the universal practice of architects to get out for their 5 per cent. *three* separate sets of all contract drawings, viz., one for the contractor; one for my Lord So-and-So, when his Lordship's butler should call for it; and a third for the architect to reserve, "for the perpetual memorial of the thing"? Can Mr. Ayrton's advisers name a single architect's office in the kingdom where it is, or *ever has been*, the custom to prepare this third (triplicate) set for the author's use?

There is no such custom in the profession. It was all very smart of the Chief Commissioner to stand up in his place in Parliament and sneer (I presume in the absence of their president, the honourable member for Bath) at the Royal Institute of Architects, as "certain architects who had met together and agreed," &c.; but the Institute had merely deemed it (*pace* Monseigneur Dupanloup) "opportune" to declare what was the received and invariable practice and *mind* of the entire profession; and a very "opportune" declaration it was. There is nothing out of the way or abnormal about it. Here is a clause taken at random from a printed office-form of general conditions at hand; and one annexed for years to architects' specifications. Architects all over the country would easily supply Mr. Ayrton with other such clauses, *totidem*, if not *ipsissimis, verbis*:—

"The original contract drawings and the specification are to be lodged with, and *are to remain in the possession of, the architect, for his future reference, whether official duplicates are needed or not.* . . . The architect will provide copies of all the contract drawings and specifications required by the contractor, free of expense; these are to be by him carefully preserved on the site (and not elsewhere) during the progress of the works; and if lost, stolen, or destroyed they are to be forthwith replaced at his expense," &c.

What architect would be so imprudent as to accede to any other than this obviously natural arrangement? How, if he does not retain these documents, on which peradventure (and in Mr. Barry's case really so) he may have been *legislating* for years, is he to prove to both client and contractor that he has acted with strict equity in all the many cases of doubt and intricacy that have cropped up from time to time during the progress of the building? It is a most grave and serious matter to officiate at all as architect of any building of magnitude; and any one who ventures on such a task had need preserve about him, to *disarm* suspicion (for he can't *avert* it), every contract drawing, specification, tender, balance-sheet, and document of whatever kind, as mementos of a grave transaction, he knows not what question may arise out of, any time within the next five or ten years. These documents the Chief Commissioner seems to regard as goods and chattels, delivered per invoice, "*this side up with care*," and all the rest of it. It is not so. They are papers which, having been used as tools or instruments in the performance of a very grave act of trust, are left naturally with the man who, from the first inception of the building scheme or plan to the signing of the certificate for balance of contract, has had every one — the contractors, their sureties, and the client—abiding for years. It may be in that interim *his sole arbitrament*; itself a necessary, an unavoidable condition of there being *any architect at all*.

In courtesy to his client, and even to his contractors and their sureties, it would seem to be the duty of an architect to retain the contract documents. Are architects, who idly give them up, quite sure that a contractor or his surety, damnified by a client's retention of them, would not have in law a just cause of action for damages? These papers are not to be looked on as rows of candles, hanging up in the architect's "shop," that ought to have been sent in to the client, who has "paid for them."

Why does the Chief Commissioner ask for these documents, and persist in having them? Surely not to put them to any irregular use, to the obvious prejudice of their author.

I write in perfect ignorance of the contending parties, never having, to my knowledge, set eyes on Mr. Barry, or upon his formidable correspondent.

AN ARCHITECT.

* We do not admit even this. The builder is bound to return the drawings to the architect.—ED.

THE DRAWINGS OF THE HOUSES OF PARLIAMENT.

MR. CORSER, the hon. secretary of the Birmingham Architectural Society, forwards to us the following resolution, passed on the 28th of April last:—

"Resolved,—That the Birmingham Society of Architects being of opinion that by the rules and practice of the profession the drawings of an architect are his own property, desire to assure Mr. Barry that he will have their support in resisting the demand of the First Commissioner of her Majesty's Works to deliver up the drawings prepared for the Houses of Parliament."

WE understand that next Monday is reserved at the Institute for discussing the Ayrton *v.* Barry question, by the light of the correspondence just published as a Parliamentary paper.

THE BUILDING ACT.

SIR,—Sir William Tite is now introducing a new Building Act, and I take the opportunity to ask, in the interests of æsthetic architecture, why we may not have a clause to permit window-frames to be fixed flush with the exterior of walls, as in houses built prior to the Act now in force.

Probably reveals are the most distinguishing features of the houses of our time, and I do not think it is too much to say that the Act which enforced them struck the final death-blow to the picturesque in building. To explain my meaning, I will invite comparison between an old house, with its windows not *marked*, but treated as *surface*, the frames and mouldings forming their legitimate margins, and a house of our day, with its deeply-gashed windows, its tiny casings, and sashes, perhaps relieved by its grandiose cement architraves, or its paltry Gothic stonework, and its mean iron columns.

On the ground of taste only I am not ashamed to claim a space in the *Builder*, nor to appeal to the President of the Institute of Architects; nevertheless, on the score of utility, it is evident, and I believe it has been maintained in theoretical books, that the glass should be as near as practicable to the exterior to obtain the greatest light,—a grave consideration in our narrow lanes and courts.

It is scarcely conceivable that the existing rule is practically a security against fire; at any rate, it is desirable to invite evidence from persons experienced in such matters.

HORACE GUNDRY.

AT the meeting held at the Surrey Commercial Dock-offices, Fenchurch-street, to organise an opposition to the Bill before Parliament "for consolidating and amending the Building Acts relating to the metropolis," Mr. Peter Rolt, who was called to the chair, said if the 111th clause of the Bill passed, the wood trade of the east and west of London would be annihilated, and it was, therefore, the duty of the trade to press the Government to withdraw the Bill. Mr. J. Sims (*Churchill & Sims*) would not go the length of saying the trade would be destroyed, but if it were desired to drive the trade from London, this Bill was the very thing to do it. Mr. Taggart said the dock companies were also opposed to the Bill on other grounds, and the Government, or those who had charge of the Bill, must be pressed to refer it to a select committee, where all parties could be heard. Its injustice and impolicy, however, did not admit of a moment's doubt. Ultimately the following resolutions were carried unanimously, the movers

and seconders being Messrs. Churchill, Hunter, Taggart, Dyer, Gabriel (T. Gabriel & Sons), and Johnson, viz.:—

"1. That in the opinion of this meeting the passing of the Bill will injuriously affect the interest of timber-merchants, builders, carpenters, cabinetmakers, saw-mill proprietors, and all others engaged in the sale or manufacture of wood.

2. That should this Bill pass as it now stands, it would be impossible for many of these trades, which give employment to large numbers of the working classes, to continue in their present localities; by which means the existing distress, especially at the East-end, would be considerably aggravated.

3. That a committee be appointed to prepare and sign on behalf of this meeting a petition to Parliament against the passing of the Bill."

The second reading of the Bill is fixed for Monday next, in the House of Commons.

LAMBETH SCHOOL OF ART.

THE distribution of gold, silver, and bronze medals, certificates, and prizes, will take place on Monday, May 9th, when the Bishop of Winchester will deliver an address. The gold medal has been awarded to Cyrus Johnson, for a life study. A silver medal has been awarded to George Brooker, for a model from the antique. Bronze medals have been awarded to Agnes Shenk, for a design for lace; George Tinworth, for a terra-cotta hand; and Cyrus Johnson, for a drawing from the antique. A book prize has been given to Robert Stocks for modelled figure design.

The committee of the Lambeth School of Science and Art are seeking aid in raising 600*l.* for the purpose of adding a story to their present building, in order to include the Modelling School. It is estimated the work will cost about 800*l.*, but towards this amount 200*l.* may be expected from the Department of Science and Art.

The manufacturing industries of Lambeth have already greatly profited by the teaching of the school; its wider range and greater accommodation would largely increase the advantages derivable by the industrial population.

WASTE OF THE BRITISH MUSEUM.

DEAR MR. EDITOR,—Pray take up your parable again against the closing of the British Museum three days of the week generally, but especially for the whole week, from the 2nd to the 7th of May, inclusive, and at other times during the year.

The numbers of ordinary visitors who are turned away is distressing to witness, and it is surely unnecessary to stop all readers, students, and visitors alike three times a year, for a whole week at a time. The Museum is closed from the 1st to the 7th of January, the 1st to the 7th of May, and the 1st to the 7th of September. The hours are from ten to four, ten to five, and ten to six, according to the time of year. The days closed each week are, Tuesday, Thursday, and Saturday, also Sunday, of course. I am this day unable to use the reading-room, as I intended. C. C. C.

*** We understand that, during this and the next two months the Museum will be kept open until eight o'clock in the evening. This is a commencement in the right direction.

THE TRAMWAYS.

THE Metropolitan Tramway Company have opened their line from the Brixton Railway Station to the Horns, Kennington Park, for public traffic. The cars are very commodious, and are fitted inside with velvet cushions and back. The windows are provided with sun-blinds. There are seats for twenty-two persons inside and twenty-four outside, besides standing-room on the platform. The carriages were built by Messrs. Starbuck, of Birkenhead. Access to the roof is gained by a winding ladder; the seats to which it leads are made like garden-seats. They are each drawn by two horses. The horses' bridles are provided with bells, the jingle of which gives notice to other vehicles to get out of the way. The fare is 2d., paid on entering, and a ticket, with a number corresponding to the counterfoil, is given as a receipt. The same company have broken ground in Clapham, for a line to form a junction with the present at the Horns, and thence to Westminster. During experimental trials, many members of Parliament and others were present. There is also a new tramway in the east of London.——The tramways committee have reported their resolutions to the House, and also the Bill with various amendments. These resolutions are to the effect that the Government Bill is to extend to Scotland; that provisional orders for the construction of tramways are to be granted by the Board of Trade and confirmed by Parliament; that the consent of two-thirds of the municipal corporation or other local authorities is to be required; that the Board of Trade may institute a local inquiry; that the Board of Trade may proceed to grant a provisional order, notwithstanding the objection to the local authority; that the Metropolitan Board be the local authority for the metropolis, except for the City; but the consent of the vestries be necessary as road authorities, subject to a resolution relating to the Board of Trade; that a *locus standi* be reserved for the owners and occupiers of property fronting a road or street, through which it is proposed to construct a tramway, to appear before referees at any local inquiry directed by the Board of Trade, and also before Parliament; that power be given to local authorities to make by-laws for the regulation of traffic, and for licensing drivers and conductors of vehicles; that power be given to local authorities to remove tramways found injurious or disused; &c.

HALIFAX BENEFIT BUILDING SOCIETY.

SIR,—Can any of your readers inform me whether any choice has yet been made amongst the competition designs for the "Halifax Benefit Building Society's Offices," which were sent in three months ago? COMPETITOR.

AN ARCHITECT'S BILL.

PECK *v.* LINCOLNSHIRE AND NOTTINGHAMSHIRE UNION SCHOOLS.

IT will be in the recollection of our readers that the plans of Mr. Frederick Peck, of London, were selected by the managers of the proposed schools, but when the estimates were received, the lowest, amounting to 12,340*l.*, was so much greater than the amount stated by the Poor Law Commissioners that the scheme was abandoned. The *Lincoln Journal* says:—"The architect claimed 810*l.* for his services, which the managers deemed exorbitant, and offered the sum of 691*l.* or the alternative of leaving it to arbitration. The latter sum was refused by Mr. Peck, and he nominated Mr. Whicheord, of London, as his arbitrator, and Mr. Goddard, of Lincoln, was appointed by the managers. When the deed of submission was sent to Mr. Peck, he refused to acknowledge it unless his original claim of 810*l.* was abandoned and 1,119*l.* 9*s.* substituted, and even then refused to refer, but caused copies of writs to be served on Sir Glynne Earle Welby Gregory, bart., and Archdeacon Trollope (two of the managers of the scheme) for the sum of 1,119*l.* 9*s.* The cause was set down for trial in the Court of Queen's Bench for the 28th of April, but a day or two previously Mr. Peck accepted 691*l.* in payment of his bill of 1,119*l.* 9*s.*, and paid his own costs."

GOOD ROAD-MAKING.

SIR,—The communication that appeared in your last week's impression, under the above heading, showing the outlay for rolling with steam roller the roadway of Upper-street, Islington, must be used with great caution, if taken as "data for cost of road-rolling," as the work on this road was quite of an exceptional character, a large portion of the time being employed in experiments, and the cost being further increased by labour and watching, in blocking up roadway, loss of time during three weeks' frost, &c. Consequently the outlay, as there given, cannot be fairly taken as representing the ordinary cost of rolling, or the capabilities of the machine.

What is purposed being done here, is to complete three or four similar roads to the Upper-street, and then take an average of the whole for the actual cost.

I was surprised to see the statement in print, as it was prepared by me for the information of this vestry, but has not yet been submitted to that Board pending the completion of the other works as before mentioned.

Had the above explanation been given with the statement of outlay, I should not have troubled you with this.

HENRY CORMACK, Surveyor, Eastern District.

METROPOLITAN BOARD OF WORKS.

AT a late meeting of the Metropolitan Board of Works, in reference to the proposed abolition of the Chelsea Bridge tolls, Sir John Thwaites in the chair, Colonel Hogg and Mr. Meaden introduced deputations from Pimlico and Battersea, presenting memorials praying that the Board will take steps to make Chelsea Suspension Bridge free to the public.

Mr. Wallace said that in a speech made some time ago there was a mis-statement,—viz., that 3,000 houses were empty in Battersea. As a member of the Assessment Committee for that district, he was in a position to say the correct number of empty houses in Battersea was 1,100, and there were 500 or 600 in course of erection. The retention of the toll undoubtedly prevented these houses being occupied; as a proof of that he would state that many people living in Battersea worked on the Middlesex side, who, of course, had to pay every time they crossed the bridge, and could not have their dinners sent them from home like other working men without the toll being paid.

Mr. Peck said the 1,100 houses empty were almost ready for assessment—these were in Battersea. Then there were Wandsworth and Clapham, who would be very much benefited by the free bridge.

On the motion of Colonel Hogg, seconded by Mr. Meaden, the two memorials were referred to the General Purposes Committee, and the deputations retired.

The Chairman said a plot of land in Queen Victoria-street had realised from the ground-rent of 2,350 ft., taking it at twenty-eight years' purchase, its proportionate value, in round numbers, a million and a quarter per acre.

A report was presented from the Works and General Purposes Committee, recommending the Board not to contribute to the cost of throwing into the public way a part of the ground enclosed within the railings at the western end of St. Paul's Cathedral, as the proposed improvement did not provide for the opening up of the roadway on the north side of the cathedral for carriage traffic. The report was received and adopted.

Mr. Freeman resumed the debate upon the question of municipal government, and advocated one great central authority for the government of the metropolis.

Mr. Runtz believed, that if the metropolis was divided into municipal corporations a royal commission would be necessary to settle the boundaries.

The following resolution was carried:—"That in the opinion of the Board it is desirable that there should be one central municipal government, with jurisdiction over the whole metropolis; and that there should be a readjustment of the districts into which the metropolis is at present divided for the purpose of local government; and that the subject be referred back to the committee for further consideration as to the details, with authority to communicate with her Majesty's Government thereon."

THE SERPENTINE.

SIR,—Will you kindly grant me a space in your paper to inform the public that the Commissioner of Her Majesty's Woods and Forests has decided not to remove all the sewage out of the Serpentine? They are now putting gravel on the top, which, when the water comes in, will shift through the mud, and the Serpentine will be as bad as ever it was before it was begun. W. E. H.

THE MUSICAL LECTURES, SOUTH KENSINGTON.

THE first lecture, Mr. Editor, was very interesting, and justified your good words; but the whole of the second lecture was devoted to teaching the two-guinea folks part songs, so that the one-guinea people got badly off. FANNY.

Books Received.

What shall we Teach? Or, Physiology in Schools. By EDWIN LANKESTER, F.R.S. London: Groombridge.

THIS very able "attempt to advocate instruction in the laws of life as a branch of general education" was intended to be read before the educational department of the Social Science Association, but Dr. Lankester thought it rather too long, when he had done with it, for such a purpose, and prepared an abstract of it, which was read instead; and at the request of the President of the Department and others, he has had the original paper published. In this paper he urges the truly vital importance of an early and general knowledge of the laws of life and health, and of obedience to these laws, upon all and sundry, our legislators, architects, clergy, householders and servants, workmen, poor-law authorities, and others. As regards the architects and engineers, we think the doctor is rather unjustly severe. As we have often pointed out, our architects have seldom anything to do, for example, with the ventilation of our dwelling-houses. And even although this were the reverse, it is not the great and unquestionable good of ventilation alone they have to consider, but the serious sanitary evil of draughts in connexion with ventilation, as well as the question of warmth in winter, especially in the dwellings of the poor, who are no doubt often very blameable in stopping up or papering over ventilators, but not seldom, with them, there is merely a choice of evils.

To the delicate and the old, draughts are no less sanitary evils than is want of ventilation. The strong and the young often do not and cannot appreciate this rightly. Not suffering themselves from ventilation, they revel in what to others would be fatal draughts. Our paper is one of the oldest pioneers of ventilation, but we have never overlooked the difficulties connected with it; and we hope, nevertheless, that we are not likely now to be set down as opponents to it. But we must still persist in guarding the growing public opinion in favour of ventilation against its contingent and possible evils, as well as in extolling its vital good. Indeed, the public opinion, which we have materially aided in forming, in favour of ventilation, is now becoming so strong, that some run it fairly into excess. Our places of amusement are now sometimes made so unmercifully draughty that we have seen even the young and strong dodging

about to get out of the draughts, or muffling up their lady friends, and using means to protect their own necks and heads, or even replacing their overcoats. And see to our modern omnibuses! If old ones were close and stuffy, the new, or rather the *re-modelled* old ones, are stuck all over with "ventilators," and the vehicle, while in progressive movement, is converted into a perfect funnel, through which never-ceasing and injurious streams of air are doing their neuralgic or rheumatic and consumptive work upon the passengers. Was there ever anything more idiotic than the open, fixed, stable-ventilators behind the horses, which admit the draughts (and the foul steam and smell from horses, clothes, &c.), winter and summer, along the heads of the passengers? The blockheads who originate and who allow of such absurdities ought to be doomed to have their own thick skulls exposed continually to such draughts.

Notwithstanding all that we have now said, however, there is much still to do in favour of ventilation, even as regards a knowledge of its importance, and the promotion of arrangements for securing it; and Dr. Lankester's advocacy of instruction for the young of all classes in this and many other subjects connected with health and life is much needed, and is capable of doing great good if well seconded and followed up in these days of educational reform.

VARIORUM.

THE current number of the *Art Journal*, a very good one, by the way, contains an illustrated account of Penshurst, the home of the stately Sidneys, by the editor. —— "The British and Foreign Mechanic and Scientific Instructor" is a cheap and useful periodical devoted to the spread of technical instruction in all arts and industries (40, Tavistock-street).

Miscellanea.

The New Library and Museum for the City.—At a recent meeting of the Common Council, Dr. Sanders moved the adoption of the report of a select committee, in relation to the erection of the new library and museum in Basinghall-street, for which the Corporation passed a vote of 25,000*l*. The report submitted, for the approval of the Court, plans, designs, and model for the erection of the new library and museum, and recommended that proper muniment rooms for the archives of the Corporation should be provided in a portion of the basement of the building, at an estimated expense of not exceeding 2,800*l*. The building could be utilised for the guests of the Lord Mayor upon state occasions, and thus they would save 19,000*l*. which had been thrown away since the commencement of the present century. If the Corporation were destined to be destroyed, they would have in the new library and museum another work of public utility and beauty to point to as the work of their hands. The motion was carried unanimously.

Crystal Palace.—The new season will commence on this Saturday, May 7th, with a musical festival, under the management of the Sacred Harmonic Society. The orchestra, which will include the entire bands and chorus of the Sacred Harmonic Society and the Crystal Palace Company, and the 2,000 members of the Handel Festival Choir, as well as other amateurs and professors of eminence, will number upwards of 3,000 performers. A very large sale of the new May season tickets has already taken place. When the low price at which the season tickets are issued, and the amount (over 43,000*l*.) annually expended in providing entertainment for the delectation of visitors are considered, it is not to be wondered at that the number issued continues to increase. The attractions announced this summer are more varied and numerous than perhaps on any former season. The principal features will be a series of eight grand summer concerts, at which all the artistes engaged at the Royal Italian Opera, Drury-lane (as well as other engagements still pending), will assist.

Destruction of a Palace by Fire.—Advices from Egypt state that a new palace just finished for the Viceroy at Ramleh, near Alexandria, at the cost of at least 200,000*l*., has been completely destroyed by fire.

The Marquis of Westminster and Working Men's Clubs.—A crowded meeting of the working men of Pimlico, Chelsea, and Westminster, has been held at the Pimlico Rooms, Winchester-street, Mr. W. H. Smith, M.P., in the chair. Mr. T. Paterson, one of the hon. secretaries of the Working Men's Club and Union, stated that the Marquis of Westminster had offered a plot of ground in Ebury-street, Pimlico, on which to erect a building to be used as a Working Men's Club for the district, and in addition he had offered the sum of 1,000*l*. towards the cost of the building. This offer had been made to the Council of the Union, who now laid it before the working men of the district. A resolution to the effect that the offer made by the Marquis deserved the hearty acknowledgments of the inhabitants of Pimlico, and should be met by corresponding efforts on their part to support the proposed institution, was carried unanimously. The meeting also pledged itself to co-operate in the support of the scheme by raising additional funds.

Eastern Progress.—The King of Ava is determined that his dominions shall no longer be out of the world altogether. His Majesty has offered to open telegraphic communications between his capital and Rangoon, bearing the whole of the expenditure from his own purse. The Indian Viceroy has expressed his pleasure with the proposition, and has caused his thanks to be conveyed to his Majesty. The Viceroy has also ruled that the expense of the telegraphic establishment along the line passing through British territories shall be defrayed by the Government of India.——The Japanese Government appears for the first time as a borrower in the London market, and invites the confidence of the English capitalists to the amount of one million sterling, for the purpose of constructing railways in that country.

Sheffield Architectural and Archæological Society.—The first excursion for this year of the members of this society has taken place. A party of ladies and gentlemen connected with the society went by the new Midland line to Chesterfield. On arriving there they were conducted by Mr. Swift through the town, who pointed out objects of interest, and read a paper on the history of the town and church. The Rev. J. Stacye gave a detailed description of the church, pointing out its principal characteristics, not forgetting its curious spire, the peculiar form of which he considered to result from the action of the sun upon the green timber used in the construction of the spire. After examining the church, the party got tea together and returned home by an evening train.

Destruction of the St. Leonard's Music Hall, Shoreditch.—A fire, involving a serious destruction of valuable property, has taken place in the St. Leonard's Music-hall. The building had a frontage in the High-street, Shoreditch, and extended backwards as far as Bateman's-row. The hall had recently been entirely re-decorated, and the stage enlarged. An alarm was given, and a number of fire-engines soon made their appearance. By this time the flames had taken full possession of the lower part of the hall, including the refreshment seats, property, and dressing-rooms. The firemen therefore directed their attention to the protection of the adjoining property at the back, which was occupied principally by poor families. The music-hall was almost entirely destroyed. The proprietor is understood to be partially insured. The origin of the fire could not be ascertained.

Haymarket Theatre. — For the rustic comedy called "Barwise's Book" (oddly enough misprinted in the House Bills, "Barwick's Book"), an exceedingly good landscape, outskirt of the village of Singleton, Sussex, has been painted by Mr. O'Connor. It includes a "practicable" avenue at the side, very nicely managed. The piece is very strongly supported, including Mr. Sothern, Mr. Kendal, Mr. Buckstone, Mr. Chippendale, Mr. Compton, Mrs. Frank Matthews, Miss Robertson, and Miss Fanny Gwynne, who do everything that can be done for it, and produce an amusing result. The drawback to the piece is the little sympathy on the part of the audience that can be felt for any one of the characters. They are a scheming shifty group, that amuse but do not touch the feelings.

The Architectural Exhibition.—The collection in Conduit-street will be opened to the public on Monday; the private view taking place on, this, Saturday.

Steam Roller.—At a recent meeting of the Ipswich Board of Health, the surveyor handed in a report as to the purchase of a roller for the roads. This report embodied replies to inquiries Mr. Ribbans had made of engineers and surveyors in other towns. That of Mr. Howell, surveyor in the district of St. James, London, says:—

"There can be no doubt but in the construction of new roads a roller is of incalculable benefit: steam rollers of 20 tons are not too heavy for this work. But for the repair of existing macadam roads a roller of that weight (one of which we once had) entirely crushes the stones on the hard surface beneath. We use a roller which, empty, weighs 3½ tons: it is used when the material is first put on or spread. When the material begins to consolidate the roller is filled with water, which increases the weight to about 7 tons."

In conclusion, Mr. Ribbans says:—

"Taking the opinion of the above-named surveyor and engineers, I think that of Mr. Howell would answer our purpose best, and that a 3½ to 4 ton roller would meet all our requirements, the cost of which delivered in London (by Amies, Barford, & Co.) would be 95*l*."

It was ultimately agreed that a roller weighing 22 cwt. when empty, and 2 tons when filled with water, be purchased, which would be, including a turn-table, 50*l*.

The Proposed Erection of Public Buildings on the Thames Embankment.—A strong opposition is being organised to the proposed appropriation of a considerable portion of the land reclaimed by the construction of the Thames Embankment for public buildings, and the subject was brought under the attention of the Marylebone Vestry, with the view of obtaining the co-operation of that board. Mr. Greenwell, the vestry clerk, read a communication from the vestry of St. George's, Hanover-square, setting forth many objections to the erection of buildings as projected, and urging that as the ratepayers of the metropolis had paid for the Embankment, the reclaimed ground ought to be used for recreation by them, and by the public generally. Several parochial and other bodies agree with these views, and have requested Mr. W. H. Smith and Captain Grosvenor to bring this subject before Parliament, which will be done forthwith.

Strange Carelessness.—Last week Mr. H. Ashcroft, of Preston, contractor, incautiously put the end of a cigar which he had been smoking into his pocket, in which, as he seems to have forgotten, he had previously put a sample of blasting powder. The result was fearful. Mr. Ashcroft was hurled a considerable distance by the explosion of the powder, his clothes were ignited, and he has sustained injuries which, it is feared, will result in his death. It is stated that one of his eyes is destroyed.

The Suez Canal.—A new difficulty has occurred in the practical working of the Suez Canal. The heat is so great that the stokers cannot live through it. A Sunderland steamer has arrived out in Calcutta with every stoker dead; several others have suffered severely; and nearly all that have passed through tell the same story. Climatological maps show that although neither the Isthmus of Suez nor the Red Sea is equatorial, the "district of greatest heat" throughout the whole globe is a small space which crosses the Red Sea, Arabia, and the Persian Gulf.

Nailsea Glass Works.—The suffering resulting from the stoppage of these works is likely to soon be at an end, as the works are said to have lately been purchased by the firm of Chance Bros., of Birmingham. The works will probably be improved and extended. The locality of Bristol is eminently suited for the manufacture of glass, owing to the cheapness of coal and the easy access by water and rail communication, and inquiries at the present moment, it is said, are being made with the intention of erecting new works in the neighbourhood of Bristol.

A Chapel Burnt Down at Ryde.—A fire has taken place in the Congregational Chapel, George-street, Ryde. The alarm was at once given to the fire brigade, and two engines were quickly on the spot; but it was found there was no chance of saving the building, and the men confined their efforts to preventing the spread of fire to the adjoining school-room and dwelling-houses. These were saved, but the chapel was gutted. The cause of the fire was unknown. The building was insured for 1,000*l*.

The Belfast Albert Memorial.—The Belfast Albert Memorial Committee have, without any public demonstration, formally handed the tower over to the town council.

New Postal System in Austria.—A new mode of postal communication, suggested in this country, is being employed in Austria for short and insignificant messages. Cards are sold for three centimes, and the sender writes the address on one side, the message on the other, and throws it into the nearest letter-box, thus economising the expense and trouble of envelopes. The postal cards are stamped and circulated by thousands over the Austrian empire, and they are in universal use at railway stations, and for correspondence on journeys.

The Antwerp Exhibition.—The Exhibition to be held in Antwerp this year will be opened on the 14th of August. We believe the Society for Promoting the Fine Arts takes upon itself all charges and expenses of transmission and return of works of art, if delivered properly packed up before the 7th of July next, at the office of Messrs. Leete & Baillon, 36, St. Mary-at-Hill, Little Tower-street, London. The Exhibition will close on the 2nd of October. 80,000 francs (3,200*l.*) are usually appropriated to the purchase of works of art by the society.

A Liberal Offer.—Mr. Joshua Fielden, M.P., and his two brothers have addressed a letter to the Todmorden board of guardians, offering to hand over to trustees of their own choice 3,000*l.* for the erection of cottage hospitals for the use of the poor and infirm, and not as tests of destitution. Amongst other things, they state that they feel satisfied, if a workhouse be erected as proposed, the poor-rates will be increased in amount, and the result will be more paupers, more vagrants, more crime, and more policemen.

Newton's Observatory.—The observatory of Sir Isaac Newton being in the market for the comparatively small sum of 500 guineas, it is proposed to raise that sum by public subscription, and present the building to the British nation either at South Kensington or elsewhere. Some American speculators are also said to be desirous of purchasing the observatory.

National Gallery Enlargement Act.—Messrs. Pennethorne and Marrable, arbitrators, and Mr. John Oakley, as umpire, have sat at the Westminster Palace Hotel to decide upon the sum to be paid to the trustees of the Provident Institution Savings Bank, St. Martin's-place, for their leasehold interest and the damage to be sustained in consequence of being compelled to remove. Messrs. Brandon, Pownall, Ryde, Clifton, Rushworth, and other surveyors were in attendance to give evidence; but the case was settled by counsel at 15,000*l.*

The General Theatrical Fund.—H.R.H. the Prince of Wales will preside at the ensuing dinner in aid of this fund. It is fixed to take place at St. James's Hall, on Monday, the 16th, and will doubtless be an interesting event. Mr. Cullenford (Theatre Royal, Haymarket) is the secretary, and may be applied to as to tickets.

Sheffield Parish Church Bells.—The old peal of ten bells in the parish church has been augmented in number, and now made into a peal of twelve. A new chime barrel has been added, so that the chimes can now play upon the whole instead of only eight, as heretofore.

TENDERS.

For a house, in Tufnell Park, N. Mr. George Truefitt, architect:—

Beavis	£1,171 0 0
Carter	1,140 0 0
Wiltshire	1,075 0 0
Ennor	1,071 0 0
Williams (accepted)	937 0 0

For restoring and reseating the parish church of Chelsham, near Croydon (amended plans). Mr. Houghton Spencer, architect:—

	General Works.	Seats.
Roberts	£1,200 0 0	£108 0 0
Wright	1,169 0 0	56 0 0
Taylor	1,093 18 0	81 10 0

For new seed-stores and stabling, at Reading, for Messrs. Sutton & Sons. Messrs. W. & J. T. Brown, architects:—

Strong	£2,735 0 0
Dunn	2,539 0 0
Searle	2,501 0 0
Woodruffe	2,490 0 0
Gibson	2,488 0 0
Sheppard	2,478 0 0
Matthews	2,446 0 0
Barnicoat (accepted)	2,350 0 0

For new infirmary-ward, at Thetford Union-house. Mr. R. M. Phipson, architect:—

Tooley	£1,295 0 0
Cornish	1,175 0 0
Mayse	994 0 0
Hubbard (accepted)	894 0 0

For new schools and master's house, North Lopham, Norfolk. Mr. R. M. Phipson, architect:—

Downing	£972 0 0
Hawes	900 0 0
Newell	774 10 0
Lacey	765 0 0
Bishop	730 0 0

For works at house, Stamford-hill, for Miss Nicholson. Mr. J. Tanner, architect:—

Eaton & Chapman	£460 0 0
Hayworth	373 0 0
Marr	316 0 0
Lewis	278 0 0

For completion of premises, Nos. 3 and 4, Cambridge-terrace, Belgrave-road, Shepherd's-bush. Mr. R. A. Lewcock, architect:—

Holmes (accepted)	£220 0 0

For buildings, in Chapel-street, Edgware-road. Messrs. Bird & Walters, architects. Quantities supplied:—

Gammon & Son	£8,887 0 0
Newman & Mann	8,736 0 0
Williams & Son	8,650 0 0
Mansfield & Price	8,096 0 0
Ebbs & Sons	7,987 0 0
Kelly, Brothers	7,923 0 0
M'Lachlan	7,920 0 0
Henshaw	7,895 0 0
Brown (accepted)	7,495 0 0

For pulling down and rebuilding No. 13, Bell-yard, Temple-bar, for Messrs. Stevens & Haynes. Mr. Edward Low, architect:—

Clemence	£811 0 0
Beeton (accepted)	690 0 0
Warne	560 0 0

For repairs and alterations to No. 46, Finsbury-square, for Mr. Woolf. Messrs. Young & Son, architects:—

Colls & Son	£628 0 0
Tyler & Lewellin	625 0 0
Helps	604 0 0
Messitt & Ashby	517 5 0
King & Son	448 0 0

For new granaries, at Canada-wharf, Rotherhithe, for the Ventilating Granary Company (Limited). Mr. James Edmeston, architect:—

Cowland	£12,619 0 0
Lawrence & Sons	12,560 0 0
Killby	12,548 0 0
Brass	11,966 0 0
Longmire & Burge	11,695 0 0
Hill, Keddell, & Waldram	11,660 0 0
Brown & Robinson	11,620 0 0
Foster	11,570 0 0
Watts (accepted)	11,255 0 0

For the erection of All Souls' Church, Kensington Park, Kensington, exclusive of fittings and upper part of tower. Messrs. James & J. S. Edmeston, architects:—

Cowland (accepted)	£4,300 0 0

For additions and alterations to The Poplars, Seven Sisters'-road, for Mr. H. H. Wettenhall. Mr. James Edmeston, architect:—

Taylor	£813 0 0
Smith	795 10 0
Vivian	795 0 0
Green (accepted)	695 0 0

For sewers, in the Netherwood and Westwick Roads' West Kensington Estate, for Mrs. Dawson. Mr. James Edmeston, architect:—

Cosh	£2,120 0 0
Chamberlain	1,958 0 0
Killby	1,922 0 0
Williams	1,900 0 0
Johnson	1,840 0 0
Cowland (accepted)	1,740 0 0
Gardner	1,680 0 0

For invalid kitchen, Sandy's-row, Spitalfields. Mr. T. Chamberlain, architect. Quantities supplied by Mr. S. B. Wilson:—

Ashby & Son	£1,527 0 0
Pritchard	1,464 0 0
Brass	1,428 0 0
Newman & Mann	1,415 0 0
Axford	1,400 0 0
Hill, Keddell, & Waldram *	1,394 0 0

* Accepted.

For public baths, Brighton. Mr. P. C. Lockwood, borough surveyor. Quantities by Mr. Lansdown:—

Lockyer	£1,060 0 0
Nightingale	943 0 0
Richardson	942 0 0
Cheesman	940 0 0
Blackmore	920 0 0
For Engineer's Work.	
Woollett	950 0 0
Mills & Wellman	755 0 0
Busby	724 0 0
Whitmore & Bunyon	722 0 0
Jennings	720 0 0
Jeakes & Co.	657 0 0
Reed	575 0 0

For Ken-wood Tower, Highgate, for Mr. E. Brooke. Messrs. Salomons & Jones, architects. The foundations put in by Messrs. Sharpington & Cole. Quantities put in by Mr. Bagg:—

Bird	£11,491 0 0
Laurence & Sons	11,430 0 0
Fish	11,100 0 0
Sharpington & Cole	10,777 0 0
Manley & Rogers	10,711 0 0
Dove, Brothers	10,675 0 0
Myers & Sons	10,652 0 0
Jackson & Shaw (accepted)	10,167 0 0

For Holborn Valley improvements, Contract L, New street, from Shoe-lane to Farringdon-street. Mr. William Haywood, engineer. Quantities supplied by Mr. D. C. Nichols:—

Hill, Keddell, & Waldram *	£16,115 0 0

* Accepted.

For vaults and roads, Newgate Market. Mr. Horace Jones, architect:—

Reddin	£2,859 0 0
Coker	2,630 0 0
Hart	2,600 0 0
Crabb	2,350 0 0
Pearson	2,275 0 0
Marshall	2,250 0 0
Killby	2,196 0 0
Henshaw	2,193 0 0
Maxwell	2,150 0 0
Cockrill	2,125 0 0
Booth	2,120 0 0
Newman & Co.	2,075 0 0
Hill, Keddell, & Waldram	2,049 0 0
Wicks, Bangs, & Co.	1,995 0 0
Knight	1,990 0 0
Mowlem & Co.	1,898 0 0
Ladd	1,887 0 0
Bloomfield	1,870 0 0
Goodsir	1,853 0 0
Wigmore	1,788 0 0

For the construction of roads and sewers, on the Woodbury Park Estate, Tunbridge-wells. Mr. W. Brentnall, surveyor. Quantities supplied:—

Kingham	£4,778 15 8
Blackmore	4,471 17 9½
Cole	4,237 2 6
Potter	4,143 11 2
Clarke	4,114 6 7
Coker	3,883 5 10½
Woodcock	3,828 19 4
Thompson	3,781 4 7
Naylor, Brothers	3,778 2 10
Vickers & Crane	3,468 0 7
Lund	3,028 8 11
Young	3,009 9 7½
Symonds	2,934 7 8
Messrs. Haynes	2,916 16 1

For public assembly-rooms, at Belvedere, Kent. Mr. A. R. Pite, architect. Quantities supplied:—

Niblett	£2,090 0 0
Killby	1,929 0 0
Peskett & Taylor	1,870 0 0
Knight	1,788 0 0
Cowland	1,780 0 0
Gambell	1,775 0 0
Blake	1,729 0 0
Nightingale	1,717 0 0
Vicary	1,675 0 0
Soht	1,660 0 0
Blackmore & Morley	1,650 0 0
Willis	1,630 0 0
Carter & Son	1,570 0 0
Harrison & Edwards	1,520 0 0
Johns	1,397 0 0

For six terraced houses, at the Hove, Brighton. Mr. Crawfurd, architect. No quantities:—

Nightingale	£9,150 0 0!
Sawyer	8,555 0 0
Baker	8,508 0 0
Peskett & Taylor	8,184 0 0
Blackmore	6,255 0 0!

For alteration and additions to the Phœnix Hotel, Princes-street, Cavendish-square, for Mr. Grey. Mr. Alfred Wright, architect:—

	Alterations.	New counter.
Watson, Brothers	£280 10 0	£126 0 0
Hyde	271 0 0	116 0 0
J. Saunders	223 10 0	75 0 0
F. Saunders	197 0 0	71 0 0
Poole	176 0 0	107 0 0
Smith	198 5 0	(including counter).

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Erratum.—In notice of Clerkenwell Police Station, for "Tilbury stone" read *Tisbury stone*.

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of Tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

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ARTICLED CLERK WANTED in an old-established Architect and Surveyor's Office. He will be required to make himself generally useful, as a small premium only will be required.—Address, by letter prepaid, to A. B. 5, Great Portland-street, Oxford-street, W.

BRADFORD CEMETERY, YORKSHIRE.
WANTED a MANAGER for the above Cemetery, to superintend the sale and setting out of the graves and vaults, also to take the management of the Company's workmen generally, and to assist in the Office in taking the orders and keeping the accounts. A suitable residence on the premises, and a salary of 100*l.* per annum will be given.—Applicants to apply by letter, stating age and references. All letters to be addressed to Mr. GAY, Secretary to the Company, Exchange Buildings, Bradford.—By order of the Directors.
Bradford, April 12th, 1870.

BOROUGH of WARWICK.—To SURVEYOR.—The Warwick Local Board of Health are prepared to receive APPLICATIONS for the office of SURVEYOR to the Board. Persons desirous of filling the office in accordance with the provisions of "The Public Health Act, 1848," "The Local Government Act, 1858," and the bye-laws of the Board, and devoting the whole of their time to the duties of the office, are requested to forward applications to me (superscribed "Surveyorship") on or before the 14th day of MAY next, stating age, residence, qualifications, and salary required, accompanied by testimonials. None need apply who do not possess a thorough knowledge of building, road-making, drainage, water service, and other works in connexion with the improvements and general management of towns. The management of the sewage farm will devolve upon the Surveyor, some knowledge of sewage irrigation will consequently be a recommendation. Security will be required. No person over 45 years of age need apply. Any further information may be had on application to me.—By order of the Local Board.
G. CATTELL GREENWAY, Clerk.
Jury-street, Warwick, 20th April, 1870.

THE Advertiser, aged 37 (Married), has now been in private practice for twelve years last past, during which time he personally directed the progress and erection of his own designs, varying in cost from 300*l.* to 10,000*l.* each, and bought all materials at whole-sale prices, opened and worked quarries never used before, is prepared to UNDERTAKE ANY SIMILAR WORK for a private individual, or for an architect who wishes his client and design done justice to. Advertiser has had experience in church, chapel, school, barrack, mansion, villa, cottage, cemetery, drainage, farm buildings, laying out extensive grounds, altering old mansions, laying out building land, levelling, land surveying (to the Royal Charity Commissioners), and a variety of practical work. He is a good draughtsman, but does not seek much office confinement; he could introduce all kinds of building, plant, force, crane, ½ mile of tramway, and trucks to run on it, and, if necessary, could develope the resources of an untried estate, as a speculation or otherwise. References to county families, eminent men, and others.—Further particulars from Q. E. D. Post-office, Liverpool, *pro tem.*

ENGRAVER WANTED.—Messrs. COX & SON are in want of a really good ENGRAVER, used to Gothic Work, and able to set out work, and look after other engravers.—Apply at College Wharf, Belvedere-road Lambeth.

PAINTERS WANTED.—Several good BRUSH HANDS. Three months' work guaranteed.—Apply to Messrs. W. H. and W. HOSKINS, Painters and Decorators, Darlington.

TO TOWN SURVEYORS.—The Local Board of Health for the District of Worthing are desirous of engaging the SERVICES of an experienced and practical Man to act as TOWN SURVEYOR. Besides the ordinary duties of a surveyor to a town placed under the Local Government Act and the Public Health Act, the charge of the Groyns and Sea Defences will be within his duties; also the Inspectorship of Nuisances, common Lodging-houses, and Slaughterhouses. He will be required to reside within the district, to devote his whole time to the service of the Local Board, and not engage in any private business. Salary, 150*l.* per annum. The strictest inquiries will be made as to the capabilities of the candidates. Applications, with copy of testimonials, to be sent to the undersigned on or before the 24th day of MAY instant. Testimonials, not to exceed six, must be of recent date, and unless originals, forwarded at the Board's request, will not be returned.
N. VERRALL, Clerk to the Local Board.
Worthing, 5th May, 1870.

THE VESTRY of ST. MARY, ISLINGTON.—Notice is hereby given, that the Sewers and Buildings Committee of this Vestry will meet at the Vestry-hall, Upper-street, on THURSDAY MORNING, the 12th instant, at HALF-PAST TEN o'clock to consider APPLICATIONS for the Office of CLERK in the Sewers and Buildings Department. The salary will commence at 70*l.* and increase 5*l.* annually until it reaches a maximum of 140*l.* per annum. It will be necessary for the candidates to have a knowledge of plan drawing. Information as to the duties of the office may be obtained of the Surveyor of Sewers, at the Vestry-hall. Applications, in the candidate's own handwriting, stating age (not to be under 20), and addressed to the Sewers and Buildings Committee, will be received not later than WEDNESDAY next, the 11th inst. and must be accompanied by testimonials. Candidates to attend the Committee at their own expense at the time and place above mentioned.
JOHN LAYTON, Vestry Clerk.
Vestry-hall, Upper-street, May 4th, 1870.

WANTED, a thoroughly good GRAINER and PAINTER. If suitable a permanency.—Apply, MONDAY between SIX and SEVEN p.m. 32, Norton Folgate, N.E.

WANTED, a FOREMAN for a SMALL JOB a few miles out of Town. Must be a Carpenter and Joiner by trade.
Also, a FOREMAN for the TIMBER YARD of a Builder's Premises. Must have a knowledge of woods, and be able to book materials.—Address, by letter, with London references, and stating wages required, to A. Z. Post-office, Turnham-green, W.

TO ENGINE FITTERS, &c.

WANTED, by the Norwich Board of Health, TWO MEN to take charge of and DRIVE the STEAM ENGINES at the SEWAGE WORKS. They must be competent to execute any repairs to the engines and pumps, as there is a workshop fitted with machinery on the works. Those will be preferred who have been employed on pumping engines. Applications, inclosing testimonials and particulars of age, and former employment, and stating wages required, must be sent in on or before MONDAY, the 23rd of MAY, instant, addressed to H. B. MILLER, Esq. Clerk to the Norwich Board of Health, Bank Chambers, Norwich, and endorsed "Applications for Situation of Engine Driver, &c."

TO SMITHS, LOCKSMITHS, AND BELLHANGERS.

WANTED, for a Constancy, a steady, active Man, competent for a Jobbing Builder's Shop.—Apply to OLIVER PITTS & SON, Builders, Walham Green, S.W.

WANTED, an ENGINEERING ASSISTANT, competent to survey, level, and prepare plans for drainage.—Address, stating previous experience, salary required, and references, to J. C. C. 2, Merton-terrace, Idly-road, Oxford.

WANTED, a good GRAINER and WRITER immediately, steady and trustworthy. Constant place.—Apply, D. RICHARDSON & SONS, North-street, Horsham, Sussex.

WANTED, a THREE-BRANCH HAND at PLUMBING, &c.—Address, SELBY, Plumber, 103, Mare-street, Hackney, N.E.

WANTED, a GENERAL FOREMAN to SUPERINTEND the ERECTION of a large HOUSE within ten miles of London. None need apply unless they can produce satisfactory reference as to ability, sobriety, and integrity from last employer.—Address, stating terms, No. 498, Office of "The Builder."

WANTED, a young and energetic FOREMAN, to superintend a Joiner's Shop with machinery. Must be a pushing man, and accustomed to piecework. None need apply unless thoroughly acquainted with Powis, James, & Co.'s Four-cutter moulding machine, and have filled a similar situation.—Apply to Messrs. CHAPMAN & CO. Engineers, Vulcan Iron Works, Rhodes-well-road, Limehouse, E.

WANTED, by the Advertiser, a SITUATION as WRITER, GRAINER, and MARBLER. Is willing to fill up his time with painting.—Address, G. O. 5, Marlborough-road, Essex-road, Islington.

TO BUILDERS, SMITHS, AND OTHERS.

WANTED, by a thoroughly practical and energetic Young Man, a SITUATION as WORKING FOREMAN or otherwise over Smiths', Fitters', and General Work. Well up in all kinds of hot-water work. Nine years' first-class references, Town or country. Would not object to go abroad.—Address, P. G. 162, King's-road, Chelsea, S.W.

WANTED, a PERMANENCY, by a good PAPERHANGER. Thoroughly understands distempering.—Address, M. N. 95, Camden-grove, North Peckham.

WANTED, by a Young Man, a SITUATION. Is a first-class grainer, marbler, and painter, and used to the management of jobs. Specimens, if required. Wages, 7½d. per hour (if for a constancy, 7d.).—Address, A. C. W. 16, Pollard-row, Peter-street, Hackney-road, London.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by an experienced Builder's Clerk, a RE-ENGAGEMENT as BOOKKEEPER and ACCOUNTANT. Well up in prime cost, and day-work accounts, estimating, and measuring, &c. Good references.—Address, ALPHA, Post-office, 53, Roman-road, Old Ford, E.

WANTED, by the Advertiser, BRICKWORK, POINTING, or CUTTING. Piecework or otherwise. In town or country.—Address, J. A. 35, Lowman-road, Hornsey-road, Holloway.

TO BUILDERS AND PLUMBERS.

WANTED, by the Advertiser, a constant SITUATION or JOB as PLUMBER. No objection to 6 l up his time if required.—Address, A. O. F. 66, Philip-street, Queen's-road, Wandsworth-road.

TO ARCHITECTS, BUILDERS, AND OTHERS.

WANTED, an ENGAGEMENT as CLERK of WORKS, GENERAL FOREMAN, or FOREMAN on an ESTATE, by an experienced Man. Well recommended. Address, A. Z. Mr. Money's, 378, King's-road, Chelsea.

TO BUILDERS, &c.

WANTED, by a steady, sober Young Man, aged 29, a SITUATION as CLERK. Well up in his duties. First-class references for ten years.—Address, M. J. H. 168, Hill-street, Walworth, S.

WANTED, by a thoroughly practical PLUMBER, a constant SITUATION or JOB. Well up in Bath and hot-water fittings, and willing to fill up his time in painting and glazing if required. Good reference. Aged 35.—Address, W. H. 49, Queen-street, Edgware-road.

TO BUILDERS, PLUMBERS, AND HOUSE DECORATORS.

WANTED, a SITUATION, by a thorough good practical PLUMBER, PAINTER, and GLAZIER in all its branches. Is a good plain grainer and writer if required, and general house decorator.—Address, X. Y. Z. 6, John-street, Edgware-road, Marylebone, London, W.

WANTED, a RE-ENGAGEMENT, as GENERAL FOREMAN or CLERK of WORKS, by a thoroughly practical and energetic Man (in town or country). Thoroughly conversant with the management of all trades, measuring up works, &c. First-class references and testimonials.—Address, 513, Office of "The Builder."

TO ARCHITECTS, &c.

WANTED, an immediate RE-ENGAGEMENT, by a really efficient ASSISTANT, who has had the experience of first-class London and country offices. Terms very moderate.—Address, W. F. F. 41, Sparkenhoe-street, Leicester.

TO ARCHITECTS, &c.

WANTED, by an ASSISTANT, a RE-ENGAGEMENT, temporary or otherwise. Is a good draughtsman in both styles, Gothic and Italian; also well up in perspective and colouring. Good references. Salary moderate.—Address, I. A. 11, Bury-street, Bloomsbury, W.C.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, as TIME and STORE KEEPER.—Five years' character.—Address, A. B. Post-office, Upper Teddington.

TO ARCHITECTS, &c.

WANTED, a RE-ENGAGEMENT as CLERK of WORKS. Twenty years' experience. Testimonials first class. Well up in church work, quantities, measuring up works, &c. Age, 45.—Address, A. Z. Z. Mrs. Everard, Kintbury, Hungerford, Berks.

WANTED, by a competent Man, a SITUATION as WRITER, GRAINER, and ORNAMENTAL HOUSE DECORATOR. Seaside preferred.—Address, R. M. No. 49, Liverpool-street, King's-cross, N.

WANTED, by an experienced SHOP FOREMAN, a SITUATION. Well versed in preparing working and detail drawings, a good measurer and a quick setter out, and has great experience in machinery. Good reference from a large London firm.—Address, F. G. care of Mrs. Farrott, the Library, 14, Palace-road, Stangate, Lambeth.

WANTED, by the Advertiser, a thoroughly useful Man, a RE-ENGAGEMENT as MANAGER, CLERK, or CLERK of WORKS to a Builder or Contractor. Well up in measuring estimating, &c. First-class references, and salary moderate. Address, 479, Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, by the Advertiser, a SITUATION as CLERK to the above. Well up in the office duties, prime cost, &c. Good references. Age 22.—Address, B. C. 16, Bride-street, Liverpool-road, N.

WANTED, a SITUATION as GENERAL CLERK in a Builder's or Contractor's Office. Can keep prime cost, &c.—Address, A. B. 3, Rose-terrace, Wellington-road, Stoke Newington, London, N.

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a good practical PLUMBER a SITUATION, permanent or otherwise. Country not objected to.—Address, 476, Office of "The Builder."

TO SURVEYORS, BUILDERS, AND OTHERS.

WANTED, by a thoroughly efficient and practical ASSISTANT, an ENGAGEMENT. Well up in taking out and preparing quantities, measuring and estimating arranging extras and omissions, and builders' accounts generally; and a good draughtsman.—Address, SURVEYOR, 23, Everett-street, Russell-square.

WANTED, by an experienced Machinist, a SITUATION to WORK MOULDING MACHINE, &c. Can make cutters and sharpen circular saws if required.—Address, A. B. 7, Duke-street, Westminster-road.

TO BUILDERS AND CONTRACTORS.

WANTED, an ENGAGEMENT, as CLERK of WORKS, GENERAL FOREMAN, or to Take Charge of a Job. No objection to country. A Carpenter and Joiner by trade.—Address, J. D. 47, Addison-road North, Notting-hill, W.

TO BUILDERS, &c.

WANTED, a SITUATION, as BUILDER'S CLERK, in the country, or General Foreman on an estate. Carpenter and Joiner. Aged 33. Good references.—Address, J. S. 23, St. Thomas's-road, Finsbury Park, Holloway.

WANTED, to ARTICLE, a well-educated YOUTH, to a good Mechanical Trade or Business. A moderate premium will be paid.—Apply, with all particulars, to Messrs. W. POPE & SON, 190, Edgware-road, W.

TO MASTER PLUMBERS, &c

WANTED, a JOB, by a good PLUMBER, or THREE-BRANCH HAND. Aged 33. No objection to the country. Good reference if required.—Address, PLUMBER, 12, Upper Charlton-street, Portland-place, W.

TO BUILDERS, BELLHANGERS, AND GASFITTERS.

WANTED, by a Young Man, a SITUATION in the above. Well used to hot-water pipes.—Address, E. S. 26, Praed-street, Paddington, W.

TO BUILDERS.

WANTED, by the Advertiser, a RE-ENGAGEMENT in a Builder's Office, as Measuring, Estimating, and Prime-cost CLERK. Ten years' experience Terms moderate. Address, H. B. 111, Spencer-road, Junction-road, N.W.

TO BUILDERS.

WANTED, a RE-ENGAGEMENT, as SHOP or OUT-DOOR FOREMAN. Nine years' reference from last employers.—Address, 492, Office of "The Builder."

WANTED, a SITUATION in an IRON MERCHANT'S OFFICE in London, by a Young Man, with six years' experience.—Apply to A. B. 17, Richmond-place, Russell-road, Holloway, N.

WANTED, a SITUATION, by an experienced Man in Stairs, Shop Fronts, Boxing, Shutters, Sashes, Frames, and the general work of a building, in Canvassing and Fixing, or to Take the Work by the Piece. Can take charge of a Shop or Job as Working Foreman.—Address, SMITHLEY, 15, Hanover-square, Kennington Park.

WANTED, by a respectable Married Man, a permanent SITUATION as PAPERHANGER and DECORATOR, and will fill up his time at painting if required. Town or country.—Address, A. B 2, Shandham-street, Bryanston-square, W.

TO SIGN, DISTILLERS', AND BREWERS' WRITERS.

WANTED, by a Young Man, who has had three years' experience in WRITING in one of our largest Brewery firms in Town, is in WANT of EMPLOYMENT. Terms moderate.—Address, J. P. 130, London-road, S.E.

TO PLUMBERS AND BUILDERS.

WANTED, by a good PLUMBER and GASFITTER, a constant SITUATION. Understands all kinds of iron pipe, bath and well work, and would not object to fill up time in zincworking or painting, if for a constancy. Town or country.—Address, R. P. 15, Stafford-street, High-street, Peckham, Surrey.

TO ARCHITECTS AND BUILDERS.

WANTED, a RE-ENGAGEMENT, as CLERK of WORKS or GENERAL FOREMAN. Excellent references given.—Address, ALPHA, 3, Seymour-place, Bryanston-square, W.

TO DECORATORS AND BUILDERS.

WANTED, a SITUATION, by a GRAINER and MARBLER. Is a good brush hand. First-class references can be given. Ten years in last situation.—Address, H. E. 24 Adam street West, Edgware-road, W.

TO GLASS ARTISTS AND MERCHANTS, CHURCH DECORATORS, &c.

WANTED, a permanent ENGAGEMENT, to WORK at CHURCH DECORATION, Ornamental Glass Painting, Enamelling, Embossing, Cutting and Leading. Thorough pencil hand, can draw ornament, and take charge of work.—Address, UTILITY, 51, Theobald's-road, London, W.C.

WANTED, a RE-ENGAGEMENT, in an Architect's or Builder's Office, by a good DRAUGHTSMAN and BOOKKEEPER, who has had several years' experience in, and thoroughly understands, the routine of both offices.—Address 470, Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, a SITUATION as WORKING FOREMAN of PLASTERERS. No objection to going to the country. First-class references.—Address, H. S. 23, Crown-street, Soho, London.

WANTED, a SITUATION, as a thorough PAINTER, &c. Writer and gilder, and accustomed to the management. Town or country.—Address, C. R. 23, Clarence Gardens, Regent's Park, N.W.

TO ARCHITECTS AND BUILDERS.

WANTED, by a thoroughly practical Man, a SITUATION as CLERK of WORKS, or BUILDER'S FOREMAN. Well up in church work, and all branches in the building trade. Aged 39. Joiner by trade. Nearly ten years' good references from large London firms and architects. Country not objected to.—Address, C. Y. 5, Princes-street, Grove-road, N.W.

TO BUILDERS AND SURVEYORS.

WANTED, an ENGAGEMENT, by a competent ASSISTANT (aged 28) of several years' experience with Surveyors and Builders. Good measurer and estimator. References as to ability, &c.—Address, 520, Office of "The Builder."

TO BUILDERS, PLUMBERS, AND OTHERS.

WANTED, by a Young Man, who is a first-class PLUMBER, a SITUATION or JOB. Can do plain zinc-work.—Address, stating wages, W. C. Plumber, No. 9, Miller-street, Camden-town, London.

TO BUILDERS AND OTHERS.

WANTED, a RE-ENGAGEMENT, in an Office of the above. Thoroughly understands the routine, can measure up work, estimate, &c. Unexceptionable references can be given.—Terms, &c. to be addressed to 512, Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT, as GENERAL FOREMAN, CLERK of WORKS, or Charge of a Job, by a thoroughly practical and energetic Man (Joiner by trade) Aged 42. Well up in all branches, measuring up work, detail and other drawings, setting out work, &c. First-class testimonials and references.—Address, 3290, Office of "The Builder."

TO BUILDERS, IRONMONGERS, &c.

WANTED, a SITUATION, by a Young Man, as BELLHANGER.—Address, J. WOODWARD, No. 4, New-end, Hampstead.

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT, as CLERK and CASHIER. Aged 24. Eight years with last employers. Excellent references.—Address, 118, Office of "The Builder."

TO CONTRACTORS AND BUILDERS.

WANTED, by the Advertiser, a SITUATION, in any position of trust and confidence. Has been with a London firm several years as Cashier and Agent for very extensive works. Well acquainted with the business. Good references and security if required.—Address, 331, Office of "The Builder."

WANTED, a JOB, by a STAIRCASE-HAND. Town or country.—Address, 490, Office of "The Builder."

TO BUILDERS, CONTRACTORS, &c.

WANTED, by the Advertiser, a SITUATION as CLERK to the above. Thoroughly understands the routine of the office, including prime cost and levelling. Good references. Aged 23.—Address, B. M. 58, East Bond-street, Leicester.

TO BUILDERS AND OTHERS.

WANTED, a SITUATION, by a Young Man, aged 23, as CARPENTER or JOINER. Used to jobbing. Can make Venetian blinds. Wages not so much an object as constant employment. Town or country.—Address, A. 65, Grove-street, Camden-town.

TO ARCHITECTS, SURVEYORS, &c.

WANTED, Temporary EMPLOYMENT. Large experience in preparation of Quantities, Estimates, Detail, and other Drawings. Five years with one of the largest firms of London Surveyors.—Address, 509, Office of "The Builder."

TO BUILDERS, DECORATORS, &c.

WANTED, an ENGAGEMENT, by a thoroughly competent BUILDER'S CLERK, with many years' experience in bookkeeping, measuring, quantities, estimating, superintending works, and the usual routine. Can take sole management. Aged 31. Partial employment not objected to. Good references.—Address, E. A. 4, St. George's-road, Regent's Park.

WANTED, by an experienced CLERK of WORKS, a SITUATION as CLERK of WORKS, or a BUILDER'S MANAGER. A good measurer, and well versed in preparing working and detail drawings. Has been employed in churches and mansions.—Address, O. P. care of Mrs. Farrett, the Library, 14, Palace-road, Stangate, Lambeth.

WANTED, by the Advertiser, a RE-ENGAGEMENT, as CLERK. Well up in the whole routine, bookkeeping, prime cost, making out accounts, preparing bills of quantities, &c. Quick at figures. Aged 28.—Address, A. B. 10, Hunter-street, Brunswick square, W.C.

TO BUILDERS AND OTHERS.

WANTED, by a Young Man, constant EMPLOYMENT as PLUMBER or Three-branch Hand. No objection to fill up time with gasfitting or plain zinc-work.—Address, E. A. Acorn Cottage, Turnham Green.

TO PAINTERS, DECORATORS, AND BUILDERS.

WANTED, a SITUATION, by a first-class FOREMAN of PAINTERS and DECORATORS. The Advertiser would either take charge of jobs or act as general Foreman. First class reference can be given touching ability and punctuality.—Address, G. L. S, Townshend-road, St. John's-wood, N.W.

TO BUILDERS, PAINTERS, &c.

WANTED, by a respectable, energetic Man, aged 40, a SITUATION as FOREMAN or MANAGER of PAINTERS. Eight years' recommendation.—Address, H. M. Post-office, Allison-terrace, Kensington.

TO ARCHITECTS.

THE Advertiser, who is a thoroughly efficient draughtsman, &c. desires a RE-ENGAGEMENT in a London Office. First-class references.—Address, A. C B. Post-office, Greenwood-road, Dalston, N.E.

TO ARCHITECTS AND SURVEYORS.

THE Advertiser desires an ENGAGEMENT with the above, temporary or otherwise. He is thoroughly acquainted with general and detail drawings, measurements, and quantities. Salary 2l. 10s. per week.—Address, H. T. G. 341, Essex-road, Islington, N.

TIMBER and MAHOGANY TRADE.—WANTED, by a highly respectable Young Man, of thorough business habits, a RE-ENGAGEMENT as SALESMAN, YARD FOREMAN, &c. or to travel. Undeniable references.—Address, RIFA, 12, Windsor-road, Holloway, N.

TO BUILDERS, MANAGERS, &c.—To an enterprising and pushing Man, a good opportunity is offered by a Building Company. One able to introduce work will be liberally dealt with.—Apply by letter to A. B. 141 & 143, Euston-road, St. Pancras.

TO ARCHITECTS AND BUILDERS.

THE Advertiser is open for an ENGAGEMENT as CLERK of WORKS or GENERAL FOREMAN, in Town or country. Satisfactory reference. Can be relied on Joiner by trade. Aged 40.—Address, O. 41, Cloudesley-road, Islington.

STAIRCASING.—A Professional Hand has a VACANCY for a PUPIL. A good opportunity for a Young Man wishing to learn the art. Moderate premium required.—Address, C. E. P. 51, Cumnore-street, Gravesend.

RE-ENGAGEMENT as CLERK of WORKS, GENERAL FOREMAN, or Charge of a Job, by an energetic practical Man. Has a thorough knowledge of every branch of the building trade. Has had the entire charge of large jobs the last twenty-five years. Unexceptionable reference and testimonials. Address, N. V. W. care of Mr. Morris, 4, Woronzow-terrace, St. John's-wood.

REQUIRED, a SITUATION as AGENT or CLERK of WORKS on an Estate, or as MANAGER with a Builder, with a view to partnership or succeeding to the business. Accustomed to drawing, estimating, superintending workmen, builders' accounts, &c. Thoroughly competent, energetic, and steady. Unexceptionable references.—Address, F. B. Post-office, Manchester.

PLASTERING WANTED, Piecework, Labour only. Town or country. Good references if required. Address, X. Y. Z. Post-office, Cunningham-terrace, Shepherd's Bush, W.

TO ARCHITECTS AND BUILDERS.

AN experienced CLERK of WORKS, aged 39 (a Joiner), is DISENGAGED. Neat draughtsman, quick at accounts, and a thorough judge of work and materials. Unexceptionable references.—Address, SPES, 2, Queen's-terrace, Camden-road, London, N.W.

TO ARCHITECTS AND SURVEYORS.

AN ASSISTANT seeks an ENGAGEMENT (temporary or permanent). General design, specifications, quantities, and the superintendence of works.—Address, A. B. 1, Great Queen-street, Westminster

TO MASTER BUILDERS

A FIRST-CLASS STAIRCASE HAND, of twenty years' experience, requires a SITUATION, by the piece or otherwise. Town or country. Or to superintend any quantity of staircase work.—Address, G. BODLEY, 10, Shurst New-road, South Norwood, Surrey.

ASSISTANCE, Temporary or otherwise.—Perspectives, Competition, Detail, and Working Drawings, Surveys, Quantities, Specifications, Builders' Works measured, Dimensions taken of old Premises for re-building, and Designs Prepared, and general assistance rendered in any branch of the profession, by a thoroughly experienced ARCHITECT.—Address, H. H. 19, Harp-lane, Tower-street, E.C.

A CLERK of WORKS requires a RE-ENGAGEMENT. Age 43 years. Has had much experience as CLERK of WORKS. Excellent testimonials.—Address, 513, Office of "The Builder."

TO BUILDERS, PAINTERS, DECORATORS, &c.

A YOUNG MAN is in WANT of a SITUATION, or JOB. Willing to make himself useful, or to take charge of Painters' Work. Town or country. Good reference. Address, ALBAN M. 9, Sutherland-terrace, Pimlico, S.W.

TO ARCHITECTS, &c.

A COMPETENT ASSISTANT, being now at liberty, would be glad to hear of an immediate ENGAGEMENT. Terms moderate.—Address, ALPHA, Post-office, Allason-terrace, Church-street, W.

TO BUILDERS, DECORATORS, &c.

A GOOD GRAINER of WOODS and MARBLES, who knows but few of the London firms at present, respectfully offers himself for a JOB, on trial.—Address, GRAINER, 175, Walworth-road, S.E.

TO BUILDERS, DECORATORS, AND HOUSE AGENTS.

A GOOD GRAINER of WOODS and MARBLES is OPEN to an ENGAGEMENT or JOB.—Address, L. P. 7, Carlisle-street, Edgware-road, W.

TO MASTER MASONS, BUILDERS, &c.

A THOROUGHLY practical MASON'S FOREMAN, accustomed to charge of public works, and acquainted with general yard business, desires RE-ENGAGEMENT. Neat draughtsman, good carver and letterer. Good references. Town or country.—Address, 461, Office of "The Builder."

TO BUILDERS, DECORATORS, &c.

A GENERAL DECORATOR and PENCIL HAND is open to an ENGAGEMENT. Well up in domestic and ecclesiastical decoration. Able to design, carry out, or superintend work. Has had several years' experience. In Town or country. Good references.—Address, J. 82, Tottenham-court-road.

TO ARCHITECTS AND SURVEYORS.

A PERSON who has had many years' practical experience in the above professions, at home and abroad, is desirous of obtaining an ENGAGEMENT.—Address, X. Z. No. 217, Grosvenor Mansions, Victoria-street, S.W.

TO BUILDERS AND MASTER PLUMBERS.

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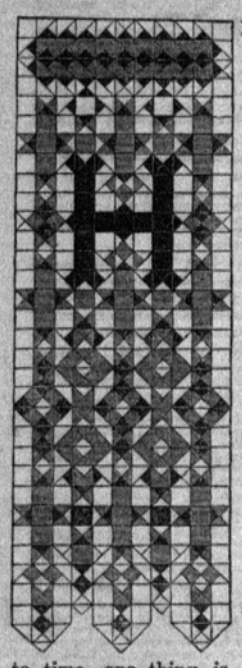
VOL. XXVIII.—No. 1423.

The New Buildings for the University of London.



HER Majesty the Queen having opened the new building erected for the New University of London, this is a fitting time for saying a word as to the general merits and success of this important architectural work, of which we some time since published an elevation and plan, besides, more recently, giving a description of the illustrative sculpture which adorns it. And here let us say at once that, whatever opinions may have been passed on it by the spectators and casual critics who have noticed the building from time to time, one thing is certain, that the real merits of the design as a whole are very much obscured by its position, so close to a comparatively narrow street, and opposite to the end of another (Old Burlington-street), which is not on its centre axis. Many designs of the modern school, which depend for their effect on a picturesque multiplicity and even confusion of parts, and which eschew uniformity, may produce almost as good an effect in a confined street site as on a more extended one, depending as they do on parts and not on the whole design for their effect. With a building so essentially Classical in type as the London University, and so completely regular and symmetrical in design, the case is quite different; it requires to be viewed as a whole, and to be so placed that its centre and principal feature may be symmetrically disposed with regard to other buildings or principal objects of whatever kind adjoining it. In this respect, there can be no doubt that Mr. Pennethorne's new building is most disadvantageously placed for the exhibition of the design, there being, in fact, no point of sight whence the whole can be well seen at once; while Old Burlington-street gives a view, for its whole length, of one of the sides only of the centre portion of the building, deprived of its adjacent parts, and appearing in unmeaning divorce from the rest. It may be said that the architect should have designed his building for the site and for the view and aspect which it was to enjoy; but although this is undoubtedly correct as a general principle, it would scarcely have been reasonable in the present instance to expect the architect to have modified his whole design in regard to the position of a very inferior class of buildings opposite, or to have provided for a vista down a street which, whatever its former importance, is not safe from the changes which are now so continually taking place, and may for a long time take place, in the line and position of streets and street property in the centre parts of London.

In plan the University building has the great merit of simplicity and symmetry, and will not be one of those too numerous public institutions on entering which the visitor is puzzled as to which way to go, and where to discover what he wants. After crossing the vestibule, we find ourselves in a central hall, with the principal staircase immediately before us, while on each hand open two wide corridors leading to the library on the right and the theatre on the left; smaller rooms for other purposes opening from these. These corridors are sufficiently lighted from skylights at each end, and from the light which is obtained from the large lantern over the central staircase which adjoins. The large library is also, as we understand it, to be the public examination-room, and adjoining it are two smaller examination-rooms, which, as well as the Professor's rooms, are reached by a transverse corridor crossing the end of the longitudinal one. A similar transverse corridor at the west end of the main one gives access to the two entrances for spectators into the auditorium and gallery of the theatre, and at the end to another examination-room, from which a flight of stairs descends, giving access to the dais or platform of the theatre; so that this room can be used as an ante-room for those who are to occupy the platform at the prize deliveries or on other important occasions. Whether it is quite desirable to have no separate access to the platform except through this room must depend very much on the working of the institution and the special uses to which the theatre and the room adjoining it are put. The centre staircase is wide and spacious, with a heavy coloured marble balustrade and balusters of white marble of somewhat thin and meagre design. The planning of the balustrade on the first floor landing, where it is turned away from the head of each flight of steps in a quarter-circle, is a good idea, giving a look of spaciousness to the upper landing, and might be well adopted, on practical grounds, in some places where there is more likely to be a crowd on the stairs occasionally than seems probable in this case. The stairs are carried on a constructed arch forming a good feature. On the first landing of the principal stairs is a niche and pedestal, opposite the lower flight, for the present occupied by a plaster cast of the Westminster Abbey statue of Shakspeare, but eventually to be filled, it is understood, with a marble statue of the poet. On each side of the niche are doors leading to reading-rooms, in what would be in the front a mezzanine; but the back elevation, which can only be seen from the roof of the Royal Academy, is innocent of orders or mezzanines, and quite independent of the front design. These reading-rooms are over the Professor's rooms, which are reached, as we said, by the western transverse passage. On the first floor, and occupying the centre of the front portion of the building over the vestibule, is the senate-room, 45 ft. by 38 ft., and nearly 30 ft. in height; adjoining this are less lofty committee-rooms. The east and west wings are occupied in this floor mainly by the upper portions of the theatre and library. We must mention that the theatre is a very handsome apartment, and will accommodate on the floor and in the gallery 900 persons. If we may judge from a passing trial, it is successful in point of acoustics. Statues of four of the Muses ornament the lecturer's side of the theatre. The rooms for servants and officials living on the premises are reached by a distinct and separate staircase at the back, running from the basement to the attic story, as much as possible shut off from the other portions of the building. A similar staircase is appropriated solely for access to the anatomical dissecting-room and laboratory, which are over the western smaller examination-rooms, and lighted from the roof. The laboratory, or chemical room, is fitted up with great completeness, each student having presses, basin, and water to his hand. The pipes from the basin are of earthenware, to resist the action of chemicals. A "stink closet," in various divisions, is provided for dealing with offensive fumes; and there is a large air-shaft over the top of the room, controllable with dampers, to meet different requirements. From the back staircases access is gained to washing places, urinals, and other conveniences; the accommodation in this respect appearing to us to be rather under than over the mark.

And now to speak of the building as a work of architecture, independently, to some extent, of practical considerations. We must admit that much of the detail is of what is now called and considered "old-fashioned;" that is to say, it is not the style which is in vogue just now, and does not show sufficient individuality and originality of treatment to compel admiration in spite of fashion, although far more thoughtful and artistic than much of the Gothic architecture of the present day. The style is Roman, with

> "Perhaps some modern touches here and there;"

which, however, would not in themselves be sufficient to

> "Redeem it from the charge of nothingness,"

were it not for the originality and breadth of treatment shown in the general design. The reader will understand our remarks better if he refer to our illustration of the elevation. The treatment of the wings, which each contain an apartment necessarily lighted mainly from the roof, is very good and original, and furnishes a suggestion for the treatment of wall space when we are so compelled to dispense with windows. The heavy rusticated basement here gives the idea of security and stability, while contrasting well with the more ornate centre of the building, and the portion above the first string-course or cornice is broken up by coupled columns and niches for statuary, which here supply the expression and life to the wall which otherwise is obtained from windows. These statues, and the sitting statues on the centre porch, have been before described and catalogued in our columns. The centre front is perhaps scarcely so happy in treatment as the sides. The lower portion is occupied by the projected portico just mentioned, with heavy square piers and circular arcade, having in the main a very satisfactory appearance. But the odd little "altars" (for such they look) which rise above the cornice of the portico at each outer angle, and form the finish to the massive angle piers, are not a successful feature; and it is just here that we would have liked to see sculpture: had these erections, made perhaps a trifle larger, culminated in a good group of sculpture, there would have been some reason for them, and the sculpture would have had more point and effect there than distributed in detached figures along the cornice of the portico. The only valid explanation that can be given for these features, is that they are intended as a kind of repetition or echo of the clock-tower of a somewhat similar square form which occupies each extremity of the centre above. One of these towers, which each have a dial of the same size, is intended for an anemometer, the other (the eastern one) for a clock; and it is this latter, with its round white expanse of clock face, which shows so curiously to the spectator walking down Old Burlington-street, with a high building on one side of it, and a low one (the east wing) on the other. The front above the portico shows the single three-quarter engaged columns with entablature breaking round the head of each, and a statue carrying up the line above, which we know so well in this style of design, and which has the disadvantage, especially when seen in perspective, of cutting up the front of a building into series of vertical strips.

Internally, the most important feature architecturally is the principal staircase light, which consists of coupled circular-headed windows below the cornice, with a shaft as a centre mullion, divided by a group of shafts on brackets,

from which spring the ribs of the coved vault which forms the base to the skylight. These shafts and windows have a slightly Romanesque touch about them, and are less purely Classic in feature than anything else in the building. The first-floor landing, or gallery, is laid with a simple, but effective, design in marble for the flooring, exceedingly well executed. Beyond this there is not much to notice artistically in the interior. The pilasters carrying soffits and arches in the ground-floor corridors are of a good type; but there is a somewhat commonplace plaster flower introduced on the pilaster and along the cornice above the astragal, which had better be knocked off at once: it could easily be done, and the plaster made good again. We noticed with pleasure a very good and simple design of wooden bracket in the library, for carrying the landing to the upper book-cases; and saw with reverse feelings, at the east end of the principal corridor, three sham wooden pedestals, of ¾-in. stuff, in its naked state, waiting for the painter to throw a veil of decency over it. Why do architects allow this sort of thing? If they cannot afford a stone pedestal in a niche, let the wooden one look like a wooden one, and be treated accordingly, instead of putting up a wretched bandbox, to be painted "stone-colour." The designs for the iron entrance-doors, and the gates and iron balustrades of the portico, are open to the objection that they are too realistic and too elaborate in that kind of surface-work which can never be well represented in cast iron. "Carving" and "casting" are two very different things, and the one should never simulate the other, as is done with regard to the latter, at least, in ninety-nine cases out of a hundred.

In respect to these matters of truthfulness in construction, and in the use of material, a good deal is owing to the recent study of Gothic work, and it is in such things that architects like Mr. Pennethorne, whose education no doubt taught him to tolerate many things in this way which the present rising generation of architectural students are taught religiously to eschew, might take hints. But how many of the new school would have given us a building so simple and sensible in plan, and with so much of dignified repose in general design and outline, as this? We have stated pretty freely our opinion as to the defects of this building, partly because it has been somewhat ignorantly praised in certain quarters; and we may further say, *en passant*, that the introduction of the red Mansfield stone for columns and in other places, which has been much landed as an attempt at polychromatic effect, is wanting in effect even now, and a few years of smoke and weather must obliterate all trace of it, save what difference of texture may afford on a close inspection. But with all minor defects, we believe we may congratulate Mr. Pennethorne on having erected a building which no dispassionate architectural observer will pass without noticing it as evidently the work of a thoughtful and refined architect, and showing no small originality without a shade of grotesque or *outré* effect. As it now stands, the building will never really have fair play; and the interior wants very much the colouring which we understand is sooner or later to be applied to it: ceilings consisting of white plaster panelling are not attractive to the eye; nor can we help regretting that in a building of this magnitude and importance, some steps were not taken towards a more purely architectural treatment, at least of corridors and, perhaps, of one or two principal rooms, by the use of brick and tile lining, instead of that eternal plaster. But with regard to the exterior it may confidently be said that, with a better position, leaving a clear space of 50 yards or so in front of it, the whole composition would come out as one of great dignity, with, perhaps, a little too much of squareness of form, but expressing in an exceptionally successful manner the nature of the purpose for which it has been erected.

We should mention that Messrs. Jackson & Shaw are the general contractors for the work, which has been carried out under the superintendence of Mr. Warburton, as clerk of the works. The walls throughouth the interior are rendered with Martin's cement.

Our remarks as to external design have had no reference to the back portion of the building, which, as we said, is not seen by ordinary passers-by, but might as well have been in something the same style as the rest, instead of in a variety of Italian Gothic with pointed windows. This curious, hermaphrodite character, it should be explained, arises from the fact that the building was originally designed in a different style, and a portion of it thus erected was retained to form the rear of the present structure.

ARCHITECTS AND THE GOVERNMENT.

FEW meetings of members of the Institute of Architects have been seen so numerous, unanimous, and determined as was that which was held on Monday evening last, to consider:—

"Whether any and what steps should be taken by the Institute in reference to the subject of a recent correspondence (printed by order of the House of Commons, April 4th, 1870), between Mr. E. M. Barry, R.A., and the First Commissioner of Works, respecting Mr. Barry's duties as architect of the New Palace of Westminster, and in reference to certain communications on the same subject received by the Council from Architectural Societies in Scotland, Ireland, and the provinces."

The new president, Mr. T. H. Wyatt, took the chair for the first time, and letters were read from Mr. Sidney Smirke, R.A., and other leading members of the profession unable to attend, expressing strong opinions on the subject, and offering subscriptions to defend the right of the profession to retain their drawings. The resolution of the council, passed on the 14th of March last, in which "the council express their most decided opinion that the rule and custom of the profession is, that all the drawings and papers of an architect prepared for the purpose of erecting a building are, and remain, the sole property of the architect," was confirmed by the meeting.

Letters were read from various Architectural Societies, in further confirmation of the opinion conveyed in the above resolution, and in support of Mr. E. M. Barry's right of ownership to the drawings and documents prepared for the erection of the Houses of Parliament, viz.: From the Royal Institute of Architects of Ireland, the Glasgow Architectural Society, the Liverpool Architectural Society, the Manchester Society of Architects, and the Birmingham Society of Architects, which have already appeared in our columns, or are printed in the present number. The two subjects, namely, the treatment received by Mr. Barry, and the right of architects to retain their drawings, were then discussed with great fulness, and the following resolutions were passed unanimously:—

"1st. That it is fitting and indeed necessary for the worthy maintenance of national monuments and buildings, that they should be always under the superintendence of professional men of independent position and high standing, who have been specially educated as architects.

2nd. That the custom of the profession has uniformly been, that the ownership of drawings and other documents, prepared for the execution of buildings, has rested with the architects employed.

3rd. That a copy of the above resolution be forwarded to all the members of both Houses of Parliament, and that the widest possible publicity be given to the same.

4th. That a committee be appointed, to consist of the president, vice-presidents, the council, and such other members of the Royal Institute of British Architects as the council may deem fit, and that this committee be authorised and requested on the part of the said Institute to support and to urge upon Her Majesty's Government either at interviews, by correspondence, or otherwise, the views expressed in the previous resolutions; with the power to convene future special general meetings for further consideration of the subject whenever they may see fit.

5th. That a vote of cordial sympathy with Mr. E. M. Barry be communicated to that gentleman.

6th. That he be encouraged by the expression of such sympathy to resist to the utmost the unprecedented demand made upon him; and that, in the event of expenses being incurred with reference thereto, in trying at law any questions which may arise between himself and the First Commissioner, this meeting pledges itself to promote the raising a guarantee fund for the same."

It was afterwards resolved that the Prime Minister should be requested to receive a deputation from the Institute on the subject of Mr. E. M. Barry's case.

In the course of the discussion a large amount of evidence was given, proving the custom of the profession as to the retention of drawings. The following gentlemen took part in the proceedings,—the President; Sir William Tite, M.P., Sir Digby Wyatt; Messrs. Aitchison, A. Allom H. Austin, Chas. Barry, Boulnois, Professor Donaldson, Edis, B. Ferrey, Fogerty, Geo. Godwin, O. Hansard, C. F. Hayward, Jennings, Horace Jones, Professor Kerr, F. Marrable, Newton, Penrose, E. Roberts, Seddon, and others.

We have read with regret, amounting, indeed, to sorrow, the leading article on this subject in the *Times* of Thursday, an article founded on want of precise knowledge, and inspired, it would almost seem, by a desire to disparage and degrade an important and laborious profession entitled to look for other treatment at the hands of the *Times*. When the writer, comparing the Institute with a body just now suspected of having attempted to commit murder, says "the United Brickmakers demand that brickmaking shall never be made any cheaper; the Associated Architects maintain that an architect always had, and always ought to have, the privilege of getting paid for goods without delivering them," he says what is not correct. An architect is not paid for his drawings; he is paid for the production of a building; and whether he do this by means of drawings or without them does not concern the client in the least. Feeling probably the weakness of the position, the writer rests his argument on the necessity of possessing drawings showing the flues and drains,—drawings which Mr. Barry has never refused to give. We are unable to pursue the matter further at the moment of going to press, and can only add that Mr. Gladstone has consented to receive a deputation this, Friday morning, who will, at any rate, be able to show to him the unanimous feeling of the profession against the course which has been pursued with respect to the architect of the Houses of Parliament.

THE COMMISSIONER OF WORKS AND MR. E. M. BARRY.

INSTITUTE OF THE ARCHITECTS OF IRELAND.

A SPECIAL Council Meeting of the Royal Institute of the Architects of Ireland has been held, to take into consideration the demand made by the Chief Commissioner of Works for delivery of plans. A statement was addressed to the council of the Royal Institute of British Architects, expressing strong sympathy and interest in Mr. Barry's case by the members of the profession in Ireland, and the anxiety of the Irish Institute to co-operate with their English brethren in resistance to this or any other encroachment on a uniformity of practice heretofore by well-established custom existing in the profession on both sides of the Channel. It was further stated that the rule of the Irish Institute was identical in expression with that of the rule of the Royal Institute of British Architects issued in 1862, having been adopted in 1863 as *properly and correctly stating the practice and usage of the profession as heretofore existing in Ireland*.

It was further said that claims by clients for the delivery of plans had rarely been made on members of the Institute, and that in a few cases where such claims had been set up, backed by the institution of legal proceedings, such claims had, under the advice of eminent counsel, been resisted, and no further attempt made to prosecute them.

It is satisfactory to learn that a thorough uniformity of practice prevails among architects both in England, Scotland, and Ireland; and it would be desirable that before any re-issue of the scale of charges and statement of practice, a conference should be organised.

THE GLASGOW SOCIETY.

The Hon. Secretary of the Glasgow Architectural Society sends us the following extract from the minutes of a meeting of that society recently held:—

"It was resolved to write to the Royal Institute of British Architects, stating that it had been the invariable practice in this district to regard drawings as the property of the architect, and that this principle is always adhered to in Glasgow."

"WHO SHOULD KEEP THE DRAWINGS?"

IT is manifestly a fortunate though fortuitous circumstance that the unfortunate controversy, whether architect or employer should retain the drawings of executed edifices, has arisen on a public instead of on a private matter. Abstract right is one thing, but the law of this realm is another thing. About such law touching the drawings there appears to be but little doubt. The custom of architects' retaining drawings has been practically recognised by clients for centuries. Established custom is law. If it were not, English courts would soon be in hopeless confusion. They are governed by statute, or written, and by common, or unwritten, that is, *customary* law; and the latter is as binding as the former. Mr. Ayrton's claim thus roots up common or customary law, and shatters the foundation of property. If endorsed, what is to become of "*customary* freeholds," the *customs* of manors, &c.? But it is needless to expand.

With regard to statute law, some of the Acts of Limitations or Prescription may possibly apply to the period when Sir Charles Barry pre-

pared many of his designs; but we have chiefly to deal with common or customary law. It is yet to be seen whether we have in the present First Commissioner of Public Buildings not merely a sound lawyer by profession, but a liberal and enlightened statesman, capable of appreciating, as it was appreciated even two thousand years ago, the importance of the fine arts in conducing to the civilisation of the people. For such is the point involved,—the just, respectful, and generous treatment of distinguished artists, in order to foster useful, true, and great artistic efforts. The public should understand that this requirement of the drawings is not merely a question of economy, for ninety-nine out of a hundred are useless in that direction, and Mr. Barry offers copies of all that may be essential; but it is one of justice,—whether, after an architect has erected an edifice, he must, contrary to all usage, forfeit his means and appliances. A lawyer prepares a deed, a surgeon performs an operation, a sculptor produces a statue,—all retain their draughts, instruments, or models; plainly because they are not *the* thing done, but only ways and means, appliances, expedients, steps and measures *subservient* to the required result. On analogous principles, an architect keeps his drawings of executed works; and he will probably ere long have even more than their possession, namely, copyright in them.

EDWARD L. TARBUCK.

TREATMENT OF ARCHITECTS.

SIR,—I have no doubt you will be sorry to learn that Mr. Ayrton, First Commissioner of the Board of Works, is about to commit another great mistake. He is about to appoint a clerk of works, as architect and surveyor, to the county courts, at a salary of from 500*l.* to 700*l.* per annum. What can the magnates of the profession be thinking of that they do not institute a Parliamentary inquiry into the abuses at the Board of Works. Surely every architect is concerned in desiring that our public buildings should be entrusted to competent persons who possess more than a smattering of architecture, so that we may no longer be "a bye-word among nations." Is there no one amongst the many professional assistants in the Board of Works better qualified than a clerk of works to design architectural works? or is it a fact (which so many aver), that the possession of talent is a bar to promotion in the Civil Service? I am inclined to think that such is the case, as the grossest injustice has been meted out of late to the learned in architecture at the Board of Works, as, for instance, the removal of Mr. Layard and Mr. Fergusson, while Mr. Pennethorne, a veteran in the profession, and Mr. Edward Barry have been superseded by Mr. Taylor (sometime since a carpenter in the employment of Mr. George Smith, the contractor), whose claim to rank as an architect he has yet to prove. We may now expect to realise the dream of many a tyro,—a new style of architecture.

A LOVER OF ARCHITECTURE.

P.S. I have just ascertained that the clerks of works belonging to the Board of Works were examined on the 3rd and 4th inst. by the *Civil Service Commissioners*, on their knowledge of building materials, construction, and taking out quantities: their knowledge of design and architecture, being considered to be of no consequence, was taken for granted.

THE DECORATIVE ART OF JAPAN.

THE glances which we have been enabled to take, from time to time, at the state of art-education in this country, as well as on the Continent of Europe, have led to the conviction that, however we may regret the want of due encouragement of the highest forms of art amongst ourselves, we are actually providing a school of decorative and industrial art which has produced much, and which promises more. Leaving aside, therefore, for the moment, the consideration of the great master-principle of the unity of art, and looking at the practical question how best to stimulate the exertions, and to improve the results, of our actual schools, within the limits to which they are at present restricted, it becomes a matter highly important to the national welfare to inquire in what localities, and to what masters, we are to look for instructive and improving examples of decorative art. We do not doubt that those whose opportunities of study have been such as to acquaint them with the subject, will at once anticipate that we are about to speak of Japan.

It is, indeed, to Greece, in the age of Phidias, that we invariably turn for the noblest examples of the highest forms of art. That this excellence was not confined to plastic art alone, we have the unique, but unquestionable, witness of the "Muse of Cortona," a Greek painting, discovered, comparatively lately, in Italy. In the decoration of the vases of Greece and of Magna Grecia, the historic development of which we may, to a very great extent, trace in the noble collection exhibited in the British Museum, we see rather the exuberance of the art-instinct, as displayed in the work of the potter, than the results of the demand of luxurious taste for sensuous ornamentation. Among the few ancient bronzes in the Italian museums are to be found the *chefs d'œuvre* of all human art. Coins of rare beauty attest the unrivalled excellence of the Greek die-sinkers; and *intaglio*, and even *cameo* gems, such, for example, as those signed by Pyrgoteles, are the masterpieces of an all but extinct mystery of the cunning of relief.

The art of Greece is of that nature of which it is said, with truth, *nascitur, non fit*. While the artist who attempts that which is most noble will ever seek inspiration and instruction from the cradle of genius, any endeavour to reproduce classic forms in their purity, in the present century, is likely to result, as it generally has resulted, in failure. We may spell a certain number of words with a K instead of with a C, without imbibing, by that or by any similar methods, any portion of classic inspiration. The style of the school of David, essentially artificial as it was, is fading from the French academies; in spite of the political reasons which dispose so large a portion of an impulsive nation, toward an imitation of all that was republican in antiquity. The effect of an exclusive study of classic forms,—of the second-hand study of nature,—in starving the mind, and in impoverishing the hand, is illustrated in a remarkable manner by the works of Flaxman. No artist in modern times had a purer taste, as far as taste could be formed by the love and study of the antique. His power of bold, striking, truthful drawing is evinced by his Italian note-book, full of masterly and admirable sketches of Italian art. Unfortunately, it was the dry bones of the past alone, that this artist found in Italy. He wandered through districts in which, even at this moment, female beauty may be almost called divine, without sketching, so far as his book is evidence, a single exalting model of nymph, or goddess, or virgin. Every scrap of Roman sculpture,—poor, ill-drawn, and harsh as these relics often are,—had a greater charm for his eye than the lithe forms of the women of Sessa, or the almond eyes of the girls of Lecce or of Brindisi. The natural, necessary result of this indifference to the mundane source of the Greek ideal, is to be seen in most of Flaxman's designs. Of the large number of sketches recently displayed in the Loan Collection at the South Kensington Museum, there was hardly one which an artist acquainted with living Italy (if she can be said to live), would care to copy, or even to possess, except as an autograph.

Admitting, as we must do, that the tone and temper of the day are not such as to allow us to expect the very proximate introduction, into this country, of the class of art-education which is attempted by more than one Continental government, it is evident that, in order to make the best of the education actually given, we must not hold too closely to Grecian models. As a mode of instructing both eye and hand in precision of form, and, to a certain extent, as a mode of forming and purifying the taste, the wiser method of copying, alternately, from the antique and from life, which has been introduced into our schools of art, is admirable. In this particular (and probably in this alone) Continental schools may take a lesson from our own; but so long as our national education is directed to the formation, rather of the art-workman than of the artist proper, we ought to look eastward of Greece for the source of his inspiration.

The tendency of the human mind, especially during the time when knowledge is but in the course of acquisition, to mistake a principle for *the* principle, is normal and constant; this evidence of partial and imperfect education is constantly out-cropping in art. It is the origin of most so-called "schools." It erects into distinct academies those minor divisions which ought to be only "forms" in one great, harmonious university of art. It speaks of the conventional, the realistic, and the ideal, as if any true art could exist which did not combine the three. But it is not falling into this vulgar error to insist that the conventional element must preside over the department of decorative art. That point admitted, it follows that examples, invaluable for the use of our industrial schools, may be furnished by the artists of Persia, of China, and of Japan.

It is in the art-works of these countries that we find at once the most perfect treatment of colour, as to harmonious blending, and the production of the effect of richness without gaudy vulgarity; and the most adroit management of geometric or arbitrary form in contrast to the flow and freedom of natural outline.

Japan may be regarded as the locality in which the most valuable discoveries in living art are now to be sought. Its civilisation, as peculiar as that of China itself, differs from that of the flowery land, not only in its artistic, but in its historic, characteristics. The most valuable productions of the special craft which takes its name from China, date from the age of the Crusades. The most rare and precious of the various species of Chinese porcelain, fragments of which are now treasured and worn as gems, the azure crackle, was fabricated under a dynasty which ascended the throne more than a century before the Norman Conquest. The most delicate egg-shell china, thin as bamboo paper, was produced early in the sixteenth century. The rage for cheap production, extending from our shores to the antipodes, has had the same fatal effect on the porcelain of China, that it has had on the iron of England. Modern productions, apparently of "hard paste," are made to sell, and not to endure; and a collection of valuable porcelain is now as rarely to be met with in China as a chest of good tea—of which herb all but the cheaper qualities have fallen into absolute neglect, in those districts which supply the English market.

But in Japan, so far as our limited acquaintance with that unique country extends, no signs are to be traced of decadence in art. Europe is only beginning to awaken to the vigorous life and the remarkable originality of the Japanese artists. It is true that we have long been acquainted with specimens of their rare cunning. The name of Japan, most inappropriately bestowed on the grim black paint, or the shining, splotchy, brown varnish, with which we decorate those iron boxes which are the pride of the legal profession, has been long cited as descriptive of that peculiar lacquer, of which we know little, save of two inferior kinds, the black and the red. Of the ten distinct orders of this peculiar manufacture, ranging as they do, from the gold lacquer, bright in all colours from that of fire to that of the rose itself, through the hues of aventurine and of tortoise-shell, to that vermilion paste (formed of fibres of urticaceous plants, bamboo paper, calcined snail-shells, and oil of camellias), which can be carved and chased like wood, little more than the names are known. Few of us are aware that not only wood, but china and metal, are encrusted with the precious lacquer of the Japanese. Here and there an amateur has picked up one of those rare little cups, Chinese, it may be, or Japanese, in its porcelain lining, the outside of which has been covered by the patient toil of the latter race with a web of wicker, delicate as lace, and firm as if it were a portion of the earthen fabric itself.

The descriptions of produce which are known to be wrought, with unrivalled excellence, in Japan, include so large a range in industrial art as to suggest how wide a field, and that by no means unoccupied, must lie between. In variety, and in excellence of adaptation for widely different purposes, there are no *papers* like those of Japan. No European silversmith, bronzist, or other worker in metal can emulate, or can altogether comprehend, the wonderful chasing, inlaying, tinting, and inexplicable transforming of metallic substances, effected by the Japanese metal-workers. Japanese porcelain has a style of its own. Wicker-work and bamboo-work of all kinds are employed, from the walls and roofs of the houses to the outside of the tea-cups. Of lacquer we have spoken. No country of Europe possesses so many specimens of Japanese work as does Great Britain. Her Majesty the Queen has given and has lent, to the South Kensington Museum, valuable specimens of China and of other industrial productions, including most curious grotesque groups in ivory. Up to the close of 1867 the Museum had acquired 183 specimens of Japanese art, of which forty were carvings in hard wood, ivory, or bone, twenty were specimens of arms and armour, fifty-four were objects of a textile fabric, and an equal number represented the porcelain of the country.

Japan was not represented at the Paris Exhibition in a manner worthy of her artistic eminence. A few articles of interest, representing the products of the forests of the country, filled a single case. They consisted of fibrous substances, such as palm-leaf sheaths, out of which fine sweeping-brooms are made; wooden tooth-brushes, charcoal of the tree fern, palm fans, neat wooden boxes, sandals, shields, baskets, and ornamental articles, made from rattan cane, large bamboo stems, and the bark of the *Broussonetia papyrifera* and other trees.

A good collection of samples of paper was also exhibited at Paris. The purposes to which this material is applied by the Japanese are almost inexhaustible. Seventy descriptions are known. They paper their houses, they paper their rooms, they paper themselves; they have paper tiles, paper great-coats, and umbrellas of oiled paper; despatch-boxes, reticules, and tobacco-pouches of a paper imitating leather; paper-cloth, as strong as leather itself; cardboard, ornamented with gold figures, costing 4 francs per sheet; gold-spangled and embossed complimentary paper, delicate writing-paper, gelatine paper, wrinkled paper, paper pocket-handkerchiefs, sold at the price of from 4 to 14 centimes per score. It is only necessary for the attention of the Japanese artists to be turned to the subject, for us to be put in possession of lace-paper, suited for ladies' dress, which should unite the richness and delicacy of the finest *point d'Alençon* with an unsullied purity special to itself—the fire being the washerwoman—at an absolutely ridiculous price.

Japanese writing-pencils and cakes of various coloured inks are also known in Europe. A case of toys was sent by the Japanese Government to the Paris Exhibition, containing rattles, dolls with moveable eyes, dolls of white earthenware with grotesque faces, cups and balls, little boxes of kitchen articles, and similar objects. It was remarked, however, by the English reporter that, owing to the contents of the case being sold, the guardian obstinately refused to give any information about them.

The peculiar silks with which Japan has lately supplied the European market, are pretty widely known. It is not, however, generally understood that the peculiar hardness and sharpness of these fabrics is due, in some unexplained manner, to the influence of the soil or climate of the island. For when what is called Japanese "seed"—that is to say, the eggs of the silk-moth—is imported into Italy, the descendants of the Oriental insects appear to become *civilised* by the inexplicable charm of the country (or the new food), and spin, after one or two descents, a finer and softer silk.

Of the works of the painters in Japan, we have but few specimens; but the originality of the canons of art which they follow is no less striking than is the case in other departments. The absence of defined outline is a marked peculiarity. Queer blotches, violent contrasts of colour, purposed defiance of what we call symmetry (that is to say, making one side a reflexion of the other), distinguish the toil of the Japanese painter, on wood, paper, or porcelain. Yet no one of these apparently accidental defects can be obliterated without damage to the "barbaric" composition; and the student is forced to admit that there are laws of harmony and of proportion, whether of colour or of form, too subtle for his grasp, but of which the Oriental craftsman evinces a perfect and an instinctive mastery.

The wonderful tiger now to be seen at the South Kensington Museum, may be cited as a characteristic specimen of the art of the Japanese painter. It has been previously described in our pages, but is now referred to as an instance of the mode in which nature can be simulated with an art almost equal to her own. Viewed at a distance, innumerable faults may be detected in the drawing, not only of the background, but of the animal. But when viewed closely, even through a magnifying glass, it is difficult to persuade the senses that one is not looking at actual fur.

In treatment of colour, an instinct of harmony seems to pervade the Oriental schools, distinct as they are in minor characteristics, which exceeds the utmost skill of the educated European workman. The Indian artists inherit as their birthright, says an English artist and art-writer, a wondrous sense of harmony in tint and dye. In their work we see how gold and colour can be brought together; how, through the most marvellous subtlety of colour and tint, the greatest sobriety can consist with the greatest richness—richness without a flavour of gaudiness; and, beyond all, how the decoration of each fabric is suited to its use, and thoroughly subordinate thereto. The flat treatment of ornament for textile design, the conventionalised rendering of the graceful forms suggested by, but not blindly copied from, foliage and flowers, and all the varied intricacy of vegetable growth,—the production, in short, of so subdued and harmonious an effect, both in form and in colour, that the unobtrusive masterpiece of art gives to the eye a rest like that which it experiences in dwelling on the graver aspects of nature,—such are the results of the exquisite sensibility to the power, and to the varied refractions of his rays, that the sun has bestowed on his dusky neighbours in the East.

For in this, we conceive, lies the secret of the truth and delicacy of the Oriental taste. East and west are mere comparative terms, accidents of geographical relation; north and south, tropical, sub-tropical, or temperate, are terms of positive import. Southern Japan, China, India, Persia, Arabia, regard the sun as he shines with a strength unknown in the shifting climate of Northern Europe. The optic nerves, as, indeed, the reasoning powers in general, are stimulated in those lands into a susceptibility unknown to the races who think more keenly than they feel. Repose from glare is the first luxury under vertical sunlight. Thus, by the very glory and brilliancy of his climate, the Oriental artist has been taught how to dip his brush in soft and harmonious hues. The quaint conventional forms into which he has tamed the luxuriance of decorative tracery may, in all probability, be due to the same law. Contrast and consent of colour demand duly proportioned areas of display, and appropriate blending of the form and outline of those areas. It is thus that the Oriental patterns have grown out of the Oriental tints. We have this proof that such is the case. In the production of those Oriental people who are so essentially monotheistic in their creed, as to allow no likeness of any living thing to be pictured in their art, we find the patterns which we recognise as Oriental, alone to prevail. Every curve, every line, is conventional. But among those people, also Oriental, whom no religious motive withholds from portraiture or pictorial effort of any kind, side by side with subdued conventional forms, we find the wildest freaks of the grotesque. Michelangelo never dreamed of such contortions (even in that vision of judgment, in which the chief Western painters have allowed themselves the utmost licence of anatomical *phantasmagoria*), as are common to the grotesque statuettes of Japan, or the foliated dragons of China. In all that tells of form and of motion alone, the Oriental taste, when unrestricted by the Koran, turns into the very wildest extravagance. The stiffness and reserve of that delineation of form which is made use of, for the express purpose of the harmonious distribution of colour, in textile or ceramic fabrics, would therefore seem to have been produced by the instinct of the colourist, rather than by that of the draughtsman.

It is thus to Oriental art that we must turn, for the best examples to be collected for any school which seeks the improvement of decoration, as an end rather than as an accident. The glories of Saracenic art were, it is possible, at their brightest, when the faith of Islam was yet in the conquering vigour of its youth. India has handed down her art traditions only from a date some two or three centuries antecedent to that of Arabian conquest. Persia had her artists when Babylon was ruled by Persian kings; nor has she lost the instinct of her craft. China, with her written history of forty-four centuries, has been, at least in some respects, degenerating and receding for a nearly a fourth of that period. Japan, so far as we can tell, has never been more vigorously alive than in her contemporary art. It is to Japan, therefore, that the philosophic student will look for valuable hints, and energetic stimulus, for the decorative artist of to-day. In metal and in clay, in silk and in other textile fabrics, in lacquer and in wicker, in all that comes under the name of paper, Japan strikes out, in rich profusion, productions which, so far from our being able to equal or to imitate them, often pass our comprehension, when we would inquire how they were produced. Her acrobats and her jugglers; her gymnasts, who hang from the roofs of the loftiest building, like monkeys or like birds; her wizard top-spinners, who make that ancient toy simulate the action of obedient intelligence, who give the apparent sportive life of the butterfly to a scrap of paper, and who address an English audience in a whistling dialect, that resembles the springtide gabble of our hedge birds, are not her greatest magicians. For her soil is the seat of living, decorative art; and they may best attain to excellence in the pursuit of ornamentation who graduate in that unique university.

The illustrated books which treat on Japan are few. There is an Italian account of the arrival at Rome of some Japanese princes, in the year 1585, printed at Venice in that year. "A Description of the Mighty Kingdoms of Japan and Siam," translated by Capt. Roger Manley, was printed in London in 1683. Memoirs of the Embassies of the Dutch East-India Company to the Emperor of Japan, were published at Amsterdam in 1680. There is a French work, by M. Titsing, illustrating the funeral rites and marriage ceremonies of this strange people, in the latter of which two attendants, called the male and female butterflies, play conspicuous parts. "The Manners and Customs of the Japanese of the Nineteenth Century," and "Japan Opened," are two compilations published in London. "The Capital of the Tycoon," by Sir Rutherford Alcock, is a recent original English work.

But any one who wishes, without visiting the great maritime empire of the Mikado, to form a clear idea of a portion of the human family, amounting to some 35 millions in number, whose elaborate civilisation is as foreign to European notions as might be that of the inhabitants of another planet, should read the French work of M. Aimé Humbert, "Le Japon Illustré," which has been published during the present spring. The author, as Envoy Extraordinary and Minister Plenipotentiary of the Swiss Confederation, possessed unique opportunities of making himself acquainted with the interior life of the Japanese. The volumes are illustrated by nearly five hundred "views, scenes, types, monuments, and landscapes;" some admirably reproduced from photographs, and some facsimiles of the wonderful drawings of the natives. The writer has regarded his subject rather from the social, than from the artistic, point of view; but many illustrations of the art of this extraordinary race may be found in perusing the work. Without adopting the form of a journal, M. Humbert appears to have written as he travelled; or, at all events, to have taken the outline of his route as that of his work. The result is, in spite of a certain want of system, a more life-like presentation to the imagination of this long-sealed empire than can be readily conceived of without reading the book. The shadowy and mystic dignity of the Mikado, the supreme and sacred sovereign; the rise of the power of the Tycoon, or Taïcoon (High Chief), recalling the history of the Merovingian *Rois Fainéants*, and the Mayors of the Palace; the struggle between the Tycoon and the fierce and powerful feudal princes; the manners of the two-sworded nobility; the sumptuous orgies of Sin Yosiwara, "the City of Vice;" grasp the imagination like a fairy tale. A civilisation of the utmost polish, free from the influences of either Egypt, Palestine, Greece, or Rome, is a phenomenon of extreme interest.

The remarks we have made on the subject of Japanese art, and of the more recent literature treating of Japan, were written before the appearance in the English money-market of the Mikado, or supreme head, temporal and ecclesiastical, of that empire, gave to the subject the fresh interest of a topic of the day. In the recent revolution in Japan, of which M. Humbert supplies some of the details, this exalted personage appears to have returned from a condition more closely resembling that of the *fainéant* kings of France, of the Merovingian line, than any more modern parallel. Uniting, to some extent, the functions of Dalai Lama, Pope, and Emperor, this prince has recently suppressed the Siogounate, or vice-royalty, hereditary in the family to the noble known to us as the Tycoon; and, as we have seen, taken the first step towards putting himself on the level of his European brother monarchs, —*videlicet*, borrowing money. The amount of a million, ridiculously inadequate as it is towards the execution of any system of railways in the fertile and populous districts of the island empire, would, no doubt, have been immediately forthcoming on the ample security of the customs of the seaport towns. But some people never know when to cry "enough." If our information, which comes from a very central source, be correct, the margin between the price at which the French contractors took the loan themselves and that at which they offered it to the English public was so large (amounting to above 33 per cent.) that, an inkling of the fact having been given, people became unwilling to come in at the tail of such a very long *queue*. Thus we have seen the quotations fall more than 3 per cent. in a single day.

The question will naturally arise, if the Mikado wants English money, why not send it out under the direction of English engineers? The subject is too considerable to discuss in a hurry. One thing, however, is pretty plain from the

experience of the few residents who know anything of the inner life of Japan. Foreigners who go to teach these gentlemen (who are, as matter of literature, fully up to our most recent improvements) must be prepared to carry their lives in their hands.

THE PUBLIC HEALTH IN THE FIRST QUARTER OF 1870.

THE Registrar-General has published his Quarterly Return of Births and Deaths in the first three months of this year, in which, anticipating any recommendations which may be contained in the long-expected Report of the Sanitary Commission, is now given for the first time a mass of information in great detail, which cannot fail to be of incalculable value to the sanitary authorities throughout England and Wales. The country for registration purposes is divided into 2,196 sub-districts, each with a registrar. The average area of those sub-districts in 1861 was rather more than twenty square miles; they contained on an average about 1,700 houses, and rather less than 10,000 inhabitants. The quarterly return now gives for each of those sub-districts not only the births and deaths registered in the three months ending 31st March last, with the marriages for the previous three months, but the deaths of infants under one year, those of persons aged sixty years and upwards, those referred to each of the seven principal diseases of the zymotic class, those resulting from violent causes, those registered upon the information of the coroner being inquest cases, and those recorded in the large public institutions, for the most part workhouses and hospitals. To those thoughtfully interested in sanitary matters it is needless to point out in how great a variety of ways this information may be turned to practical account by local authorities, at the same time affording to any one who cares to study the returns a good general view of the proportionate fatal prevalence of zymotic disease in the various parts of England and Wales down to so recent a date as the 31st of March last. The Registrar-General states that he is unable to vouch for the absolute correctness of the figures in the Quarterly Report, as it is compiled from the individual returns of the 2,196 registrars, to very many of whom the analysis of the causes of death has been a new and a somewhat difficult task. The facts are doubtless in the main correct, but the actual figures must be regarded as provisional, and subject to revision in the Annual Report for 1870, which, however, cannot be looked for before the end of 1871 at the earliest. In the meantime, this information, even with its percentage of inaccuracies, cannot well be over-valued.

The winter of 1869-70 was a long and trying one, resulting in a mortality considerably in excess of the average. The mean temperature of the first three months of this year was 38·0° Fahr.,—1·6° below the average of twenty-nine years, and lower than in any corresponding period since 1865, when it was only 36·5°. The mortality in the first quarter of the year rises in singular uniformity with the fall of the mercury in our thermometer, and it is not surprising therefore to find that the national death-rate last quarter was higher than in any corresponding three months since 1865. The remarkable alterations of temperature during last quarter, especially in March, had probably more direct influence upon the death-rate than the fact of the mean temperature being below the average for the quarter. From the 4th to the 15th of March the daily temperature averaged a deficiency of 3½°; on the 16th, 17th, and 18th there was an average excess of 6½°; and from the 19th to the end of the month a deficiency again of 5½°. Those three warm days doubtless rendered the succeeding spell of cold weather still more fatal to those suffering from affections of the respiratory organs than it would otherwise have been.

In the first three months of this year both births and deaths in England and Wales very considerably exceeded the average numbers in the ten previous corresponding quarters, after due allowance for increase of population. The natural increase to the numerical strength of the people during the quarter, as represented by the excess of births over deaths, was 62,451 against 70,618 in the same period of 1869: the births showed an increase of 2,386, but the deaths were more numerous by 10,553. The annual birth-rate last quarter was 38·1 per 1,000, and higher than the rate in the first quarter of any of the last ten years, the average for which was 37·0. The annual death-rate in the whole of England and Wales last quarter was 26·5 per 1,000, against 22·3 and 24·8 in the same period of 1868 and 1869, and 25·3 the average of the ten first quarters of the years 1860-9; in these years the death-rate which prevailed last quarter was only exceeded in 1864 and 1865. The excess of mortality in our urban population over that prevailing in our rural districts was considerably below the average last quarter; the average excess in the first quarters of the ten years 1860-9 was 5·3 per 1,000, while in the quarter under notice the death-rate in all the chief towns averaged 27·8, and was 24·9 in the rural and village population, showing an excess not above 2·9. It is thus evident that the principal excess of deaths last quarter occurred in the country districts, but without a careful analysis of the causes of death (which is not yet possible), it would be hazardous to pronounce how much of this result was due to the more direct influence of the low temperature and sudden alternations on the rural population, and how much to an improved sanitary condition of our towns, which may to some extent have therein counterbalanced the unfavourable climatic conditions.

There was still, however, a large excess in the annual death-rate last quarter of our entire town population (roughly speaking, about half the population of England and Wales), amounting to nearly three per 1,000. This excess, which is beyond doubt amenable to sanitary control, is important enough to command the earnest attention of all humanitarians. This excess of three per 1,000 during the year results in 30,000 deaths in our town districts over the number who would die if the death-rate did not exceed that of the country districts. As a matter of fact, the average annual excess of the town over the country death-rate in the ten years 1860-9 averaged 4·6 per 1,000. Let us endeavour to trace this excess of town mortality within smaller limits. The death-rate in the entire urban population last quarter was as above stated 27·8 per 1,000. In the seventeen largest English towns, furnishing weekly returns, including London, and comprising an estimated population of about 6¼ millions, the death-rate last quarter was 27·1 per 1,000, and scarcely higher than in 1869. In the fifty towns ranking next in size, with about 2½ millions of population, and including nearly all the towns the inhabitants of which number between 25,000 and 100,000, the death-rate did not exceed 26·7. If, then, in 8¾ millions of our town population the death-rate last quarter was sensibly below the rate for the whole urban districts, it appears fair to assume that an undue excess occurred in the death-rate prevailing in the 2¼ millions inhabiting the smallest towns. This appears probable when we consider that ere this the force of public opinion has produced liberal sanitary reform in nearly all the large towns for which the Registrar-General has published periodical returns of mortality; whereas, in many of the smaller ones, for which the vital statistics are not so readily attainable, much ignorance and apathy still lingers as to their true sanitary condition. The new form of quarterly returns will probably do much to remove the former and to stimulate the latter of these two dangerous shortcomings.

Among the seventeen largest English towns, including London, for which the Registrar-General now publishes weekly returns, the annual rates of mortality, during last quarter, per 1,000 of their estimated population, ranged in order from the lowest, run as follow:—

Sunderland	21·9	Leeds	27·5
Hull	23·4	Nottingham	27·6
Leicester	23·8	Norwich	27·7
Birmingham	24·0	Sheffield	28·3
Bradford	24·1	Liverpool	28·4
Wolverhampton	24·3	Salford	29·5
Portsmouth	26·0	Bristol	31·7
London	26·7	Manchester	32·7
Newcastle-upon-Tyne	26·9		

Most of these rates showed an increase upon those prevailing in the corresponding quarter of 1869, the largest increase appearing in Manchester and Salford, and in Bristol. In contrast to the generally increased rates, those in Newcastle-upon-Tyne, Hull, Sheffield, and Liverpool, showed a satisfactory decline. The annual death-rate in the quarter from the seven principal diseases of the zymotic class, ranged from 1·7, 1·9, and 2·2 per 1,000 respectively, in Norwich, Leicester, and Sunderland; to 4·8 in Bristol, 5·0 in Portsmouth, 6·2 in Manchester and Salford, and 6·9 per 1,000 in Sheffield. This throws considerable light upon the excess of the death-rate in many of the above towns. Scarlatina was the most fatal of these diseases, especially in Sheffield, Liverpool, Leeds, and London. Whooping cough was also particularly prevalent in Manchester and Birmingham. The range between the death-rates in Manchester and Birmingham last quarter was large, but scarcely larger than usual. Manchester people may well ask why this state of things should continue.

In the list of the fifty large English towns ranking most in size with the seventeen above enumerated, the death-rates last quarter were lowest—17·3 in Birkenhead, 20·0 in Southampton, 20·1 in Coventry, and 20·5 in York; they were highest—33·2 in Bath, 33·4 in Shrewsbury, 33·6 in Stockport and Cambridge, 36·0 in Blackburn, and 37·6 in Exeter. In the latter city the deaths exceeded the births, and were 78 above the average of the three previous corresponding quarters.

The information now given for the first time bearing upon the ages and causes of death will become infinitely more valuable when comparison becomes possible with a series of corresponding quarters; the following deductions are, however, interesting. Of all deaths registered in England and Wales last quarter 22·6 per cent. were of infants under one year of age; and 26·2 per cent. of persons aged sixty years and upwards. The proportion of deaths of children under one year, to births registered, affords on the whole the most satisfactory means of testing infant mortality in different populations; this proportion was 15·8 per cent. in the whole of England and Wales, while it varied from 13·8 per cent. in the south-eastern, and 14·0 in the south-western counties, to 16·9 in the north-midland, and 17·8 in Lancashire and Cheshire. The proportion of deaths of persons over sixty years of age varied still more remarkably from only 18·9 per cent. in the manufacturing population of Lancashire and Cheshire, to 34·7 and 38·5 per cent. in the agricultural counties of Norfolk, Suffolk, and Essex, and of Devon, Somerset, and Cornwall. Two causes are in operation which may help to produce this result. In the first place, the continued migration of the younger portion of the adult population from the agricultural counties to our manufacturing town centres, leaves behind an undue proportion of elderly people; and secondly, the severities and shifting temperature of our winter climate are more fatally felt in our rural districts, where the dwellings of the poor are less substantially built, and in less sheltered situations, where firing is for the most part dearer, and where low wages render the labourers less able to clothe and feed themselves in a manner to resist the cold winds and frosts than their town brethren. Thus may very probably be explained the large percentage of deaths of elderly persons in our rural districts during the winter, from bronchitis and other affections of the respiratory organs.

As to the causes of death, more than 20,000 fatal cases of the seven principal diseases of the zymotic class were registered last quarter in England and Wales, including 6,693 of scarlatina, 4,448 of whooping cough, 4,178 of fever, 1,922 of measles, 1,743 of diarrhœa, 710 of diphtheria, and 405 of small-pox. Scarlatina was proportionally most fatal in London and Yorkshire of the large registration divisions; whooping cough in London and Lancashire; fever in Lancashire and Yorkshire; and small-pox in London, the home counties, Lancashire and Yorkshire. Nearly 7,000 deaths in the quarter were registered upon the information of the coroner, being inquest cases; nearly 3,000 were referred to different forms of violence; and over 12,000 were recorded in the large public institutions of the country, including principally workhouses, hospitals, and lunatic asylums. In the seventeen large towns the proportion of deaths from violence to total death last quarter varied from 1·4 per cent. in Sheffield and Portsmouth, to 5·3 in Liverpool, and 6·6 per cent. in Birmingham. In the latter town no less than 13 per cent. of the deaths were inquest cases; and of these nearly half resulted from violence, the remainder being for the most part sudden deaths from natural causes. Why the proportion of these deaths in Birmingham should be so much higher than in the other large manufacturing towns it is difficult to say. The proportion of deaths in the large public institutions in the seventeen large towns ranged from 6·7 and 7·3 per cent., in Leeds and Sheffield, to 15·2 and 16·5 per cent. in Manchester and London.

Space will not allow us to do more than thus slightly to sketch a few of the most salient points

in the Registrar-General's new Quarterly. We hope, however, that enough has been said to prove to those interested in sanitary matters that these returns will in future afford every reasonable facility for obtaining prompt and reliable information as to the condition of the public health in all parts of the country. We anticipate that a very general stimulus will be given to the public interest in sanitary and hygeinic matters by the publication of these returns in such useful detail.

THE ARCHITECTURAL EXHIBITION.

THE collection of drawings in the Condnit-street Galleries shows this year no falling off certainly as to the number of designs contributed, and, on the whole, these may be said to be of greater average merit, and to possess more variety of interest, than the drawings of last year's exhibition. The disparity between the number of Classic and Gothic designs, though the latter greatly predominate, is not so remarkable as in the architectural room at the Academy; it may be that in the eyes of academicians, who look mostly to drawing, a Gothic design makes a better and more effective drawing, as a rule, than a Classic one. Whether we can congratulate the adherents of Classic design upon having done much to advance the cause they have at heart is, however, "a question to be asked;" and to be answered, we fear, in the negative: certainly we have noticed nothing so good or original as Mr. Wild's small drawing in the Academy (referred to in our last number); and it must be conceded that on the whole both the best drawing and the best and most original designing to be found in the room belong to the adherents of Mediævalism, ancient or modern; for there is a modern Mediævalism quite distinct from the original article. The modern antiquity disports itself most conspicuously in town-halls, which, once upon a time, were supposed to be of necessity Renaissance, and are at present equally of necessity Gothic. The size and showy character of the drawings which illustrate these lead one at first sight to suppose that town-halls predominate in the Conduit-street Exhibition. As a matter of fact, however, out of the 204 drawings hung in the principal room (excluding the screens), only twenty are illustrative of town-halls, while thirty-five are devoted to domestic architecture, and fifty-two to ecclesiastical design; the rest being various, including banks, schools, organ fronts, and decoration of various kinds. We will be guided by numerical superiority, and see first what there is to attract us among the churches.

These, to say truth, are not very satisfactory, or rather, perhaps, they are no more than satisfactory; comparatively few exhibiting either general treatment or special features to mark them out individually from among the crowds of designs for churches which are being, and have been of late, turned out by our leading popular church producers. Mr. White shows us elevation, plan, and details of "Holy Trinity Church, Barnstaple" (9), "built, 1845; remodelled and rebuilt with the old materials, and the tower lowered, 1869." As we have no drawing of the tower in combination with the rest of the church, we cannot judge how far the whole composition may have been affected by the unusual course of lowering a tower already built, nor are we told whether it was done on artistic or practical grounds. The present drawings show a good, but not remarkable, Decorated Gothic design, with plenty of unbroken wall-space between the windows; but as a "remodelling" it is difficult to judge of it. Mr. F. Chancellor's very pleasing pencil sketch of "New Church, Forth-end Waltham, Essex" (12), shows a very clever and picturesque design, especially as to the tower, but with too much roof in proportion to the walls, and the long, narrow slip of roof left between the tower and the east-aisle wall has an unhappy effect in the drawing, though it may not really be so bad as it appears in this view. Mr. Emerson, in his exterior view of the "Choir of Allahabad Cathedral, in course of Erection" (15), the interior of which (No. 793 in the Royal Academy) we alluded to last week, goes against all associations as to tropical architecture, in this heavy, colourless Romanesque design, which, on other grounds, has a certain merit and dignity, notably in the heavy drop arches which shadow the clearstory windows, the supporting shafts of which spring, however, rather awkwardly from the aisle roof. We may notice in passing the same architect's "Interior Perspective Competition Design for National Bank, Bombay" (16), which exhibits much the same merits and defects as the cathedral. Mr. Blomfield's interiors of the Churches of St. Barnabas, Oxford, and of St. Mary's, Strood, Kent (25, 26, 27), show the usual clear drawing and colouring and the usual accurate and satisfactory Gothic design which we are accustomed to receive at his hands, but not very much more.

There are a good many other churches in the room, to which we must refer more briefly; among the best, perhaps, are "St. Michael and All Angels, Stepney," by Messrs. Jarvis & Son, and "Congregational Church, Stamford-hill" (98), by Mr. Chatfeild Clarke; the latter a small but very well-drawn and carefully considered west elevation. "A View of the Interior of St. George's Church, Tufnell Park, Holloway" (now pretty well known) (90), by Mr. Truefitt, is, like many of his designs, a suggestion out of the common way. The view given,—a large and effectively coloured drawing,—shows an octagonal area with surrounding aisle, the clearstory supported by iron columns, which leave the whole floor all but completely unencumbered for worshippers. We regret, the appearance of the iron tie-rods from the springing of one arch to another; familiar as we are with the feature in Moorish architecture, we cannot get reconciled to it: independently of the break in the arch caused thereby, it irresistibly suggests the idea of the building being unfinished, and that the tie-rods are only waiting for the "written order from the architect" to be cut out. We must say a word in praise of the treatment of the capitals of the iron columns, in which no attempt at cast-iron imitation of carving is made, but a series of thin flat scrolls, turned over at the top in a curl, and such as could only be executed in the material actually employed, give a truthfulness of expression not often seen in ironwork employed in that position. The exterior and interior views of "Christ Church, Clapton" (96, 97), by Mr. James Brooks, are worth notice; they show a solid though rather heavy design in red brick, with stone dressings, in the modern chamferesque Gothic school. We must point out the very bad effect of the circular wooden barrel vault (a disagreeable fashion of church roof, which too much prevails at present), crossed by a series of parallel ribs, with the inevitable bands at intervals, and which in the perspective view, look rather like the ribs of a toast-rack seen in perspective. "A Specimen of Etching prepared for the Photo-lithographic Process" (154), drawn by Mr. W. H. Lockwood, is an admirable specimen of clear and effective architectural etching not overdone with lines (which is the temptation of etchers), and showing a very pleasing design, by Mr. G. C. Haddon, for a "Congregational Church," at Hereford. "Sketch in Waltham Abbey, showing new east end, erected from the designs, and under the superintendence of," Mr. W. Burges (155), is one of the most effective water-colour drawings in the room, small in size, but finished with great depth of tone and chiaroscuro. The west end shows Mr. Burges's usual merits and defects, defects which are perhaps inseparable from the peculiar style in which he has elected to work. A circular-headed recessed arch in the wall, with square soffit springing from short heavy columns in the jambs, encloses a large circular plate-tracery window, with circular centre light and seven three-quarter circles in rose-fashion round it. This incessant repetition of circles, and parts of circles, is rather wearying to the eye. Below this is a triforium stage, consisting of a pointed arcade on the same short shafts, which Mr. Burges is so fond of, and with a band of deep quatrefoils over it, not in panels, but dead sinkings (apparently), in the wall face. There is certainly an expression of endurance and of sombre strength in this kind of treatment of Gothic, but it becomes wearisome after a while, and we cannot but wish for something more of refinement of outline and finish of detail along with this boldness and solidity of treatment. As a great contrast to such a design, let us look at the carefully finished elevation, drawn by Mr. H. Hall, of the west front of M. Ballu's "Church of St. Trinité, Paris" (181). This is a Renaissance façade, with some modern details, admirable as a whole in point of composition and outline, with its well-contrasted centre cupola, and smaller cupolas at the angles, the former in itself an elegant composition, dignified yet light, sufficiently pyramidal in form to carry the eye up naturally to the apex of the composition, yet without interfering with the general horizontal lines of the front. The transition from square to octagon is happily managed on the whole; but the small thin wiry flying buttresses at this point are a very weak feature, though fortunately not obtrusively noticeable. The ground-story, with sufficiently massive piers and round arches of a kind of refined Romanesque type, backed by a deep shadow from the entrance porch or narthex in the rear, forms an effective base to the whole composition. This front has certain defects common in Renaissance design; a certain want of unity and homogeneous expression, a system of design in successive stages, not sufficiently interdependent, and with windows here and there arbitrarily placed in the centre of a compartment of wall, with their cill and pediment, totally irrespective of composition; but on the whole it is a highly artistic and successful design, though made out of not quite satisfactory materials, and is, at all events, more expressive of the tone and feeling of modern life in regard to matters religious than many of the Gothic—very Gothic—designs that are springing up around us; and we commend it to the notice of students who may be desirous of bringing forth ecclesiastical designs not totally out of harmony with the modern life around them. It may be observed, by the way, that the circular wheel window over the entrance, though in general form just what may be found in early French Gothic (as at Chartres, for instance), with a slight modification of detail harmonises completely with the other Renaissance details. Sculpture is freely, but not *too* freely, used in the decoration of the façade. Mr. C. F. Hayward shows us a pleasing design, in the "Church of the Holy Innocents, East Shefford" (158), which, by the way, might have been a little better illustrated than in the pencil drawings he has sent.

Nothing could better bear out some recent remarks as to architects' sculpture, quoted and endorsed by us in a late number, than the design showing "proposed Sculpture and incised Decoration of the Narthex of St. Peter's Church, Vauxhall" (132), by Mr. Pearson. The church itself, which we illustrated some time since, is a good specimen of effective and picturesque architectural design. Why should the architect propose to adorn (?) it with sculpture which, as representation of the human figure and action, would certainly be ignominiously driven from the doors of the Royal Academy? Why are the lines of the hood moulds over the windows to cut into and interfere with the bas-reliefs above, thus conveying the idea that the whole sculpture is an afterthought, for which no provision has been made, and that it has to be squeezed in anyhow? Why are the "Resurrection" and the "Entry into Jerusalem" always represented by those architects who introduce sculpture, with figures below the natural height and proportion of a man, and without elbows, or calves to their legs, and often more like monkeys than men? If Mr. Pearson or his friends can give us a definite and reasonable motive for this treatment of sculpture, when it concerns what are to the majority the greatest and holiest of subjects, in a manner which would never be tolerated, which would simply be laughed at, in an ordinary exhibition-room;—if they can tell us why the same proficiency in anatomical knowledge and figure composition is not so necessary for the production of a figure of "Christ entering Jerusalem" as for one of "Venus Victrix" or "Cupid captive,"—we will retract our observations, and humble ourselves in dust and ashes. In the meantime, our verdict is *ne sutor ultra crepidam*: let architects study architecture, and leave the designing of sculpture to sculptors; except as exercising a general influence over the style and position of the sculpture, which we hold that they should do, as the architect ought always to be supposed to have considered the *tout ensemble* of his building more than the sculptor can have been able to do. Under the head of ecclesiastical design we may class a drawing for an organ-case for Melbourne (120), by Mr. D. Ruddle. We are glad always to see this important piece of furniture taken out of the hand of the organ-builder's foreman and artistically treated. This is a Renaissance design, with a very good and effective plan of front line, and finished with little dormers and gablets and festoons in a not very original manner, though pleasing on the whole; but the large pipes want a heavier base or plinth under them; and why was the decorative woodwork not made the crown of the whole, instead of projecting the tops of the pipes above it again? One of the main objects of the screen should be to hide the uneven line of pipe-tops, which

must always be unsightly, except in the case of very large pipes (in a "32 ft." stop for instance), which can receive each a separate decorative treatment. The panelling in the dado is very weak compared with the upper portions. There is another so-called "Design for an Organ-case" (17), with the pipes merely ranged nakedly in a pyramidal row on two faces (the worst possible arrangement, by the way, as the organ-builder always wants the large pipes at the *sides*, not in the centre). It is difficult to imagine why Mr. Tarver should have made this drawing, still more why it should have been hung.

Among designs for public buildings of various kinds, we need merely mention that Mr. Street exhibits several of his views of different portions of the proposed Law Courts, which have been sufficiently discussed and criticised already. Mr. Nevill sends photographs of his "Bradford Town-hall Competition Design" (13), of which we sufficiently expressed our judgment, as to the exterior, in reviewing the Academy drawings last week; the interior view of the lower hall, "Borough Court" (51), is, we ought in fairness to add, much more successful, as an interior, than the exterior general design. Mr. C. O. Ellison sends a large perspective view of competition drawing for "Legislative Hall, Douglas, Isle of Man," which we are not surprised to find an unsuccessful one. The drawing is, to be sure, very badly coloured, which tells against it as to general appearance; but no drawing would redeem the effect of the heavy stepped gables of the dormers, and the inartistic treatment of the upper portion of the tower, which is, besides, far to heavy for its base. The end elevations, and other portions shown in drawings 170, 171, 172, where the tower is omitted, have a better appearance. Another competition design, the "Wesleyan Theological Institution" (179), by the same hand, is a better design, and of a less *outré* type. The author adopts the expedient of placing in the corner of the drawing a very small perspective view representing (on his own statement) the design actually executed,—a shrewd idea, no doubt; as to the fairness or good taste of which there may be two opinions.

We must postpone other observations till next week, but would, meanwhile, mention that several remarkable drawings of furniture and decoration by Mr. Owen Jones, declined by the Academy, as were several other important drawings now in this gallery, have been received by the committee. Although sent in after the stipulated time, we trust that space will be found for them.

METROPOLITAN BUILDINGS AND MANAGEMENT BILL.

In answer to Mr. Dillwyn, in the House of Commons on Monday last,

Sir W. Tite said it was certainly his intention to proceed with this Bill, if he could find an opportunity, but if the objection to the measure was one of clauses, and not of principle, he should offer no opposition, after it had been read a second time, to its reference to a Select Committee.

At a meeting of the City Sewers Commission on Tuesday, Mr. Alderman Lawrence, M.P., called attention to the Bill, which, he said, was a measure that interfered with property, not merely within the City, but outside of it. It was divided into eighteen divisions; it had seventeen schedules, and there were 132 clauses. The Metropolitan Board of Works, by whom it had been brought forward, had just issued copies, accompanied by sixteen pages of observations, and an additional page of notes. It was a Bill which was of importance both to owners and occupiers of property, especially within the City. He might state shortly that in streets 40 ft. wide, the height of buildings was to be limited to 60 ft. from the pavement to the eaves of the roof; and in streets of more than 40 ft. in width, to 65 ft. Warehouses or other premises were limited to 216,000 cubic feet, and if of larger size they must be divided by party walls without any opening whatever; 216,000 cubic feet might seem to indicate a large amount of space, but it was only the cube of 60 ft., so that the premises would only be 60 ft. long, 60 ft. wide, and 60 ft. high. Buildings like the National Discount Company's offices in Cornhill, or the Union Bank, opposite the Mansion House, could not be erected in the City after the passing of this Bill, unless the Metropolitan Board of Works were specially to give permission. Again, in the event of half of premises, such as those occupied by Messrs. Leaf, Messrs. Pawson, Messrs. J. & R. Morley, and others, being destroyed by fire, the other half would have to be pulled down and reconstructed in accordance with the provisions of the Bill; the object being to reduce premises both in size and height, as a protection against large fires. The effect upon the value of property in the City would be very great. The Bill affected not only the wholesale warehouses in the City, but also the large retail houses at the other end of the town; for no premises like Swan & Edgar's, Peter Robinson's, or Marshall & Snelgrove's could be constructed under this Bill; and if, unfortunately, more than half of any of these premises should happen to be destroyed by fire, the remainder would have to be pulled down and subdivided into compartments of 216,000 ft., without any means of communication between one portion of the building and another, except outside fireproof galleries. The Metropolitan Board of Works, through their representative, Sir William Tite, were anxious that the Bill should go before a select committee; but he (Alderman Lawrence) was quite sure that at the present moment the whole of the interests that were jeopardised by the Bill were entirely ignorant of its contents, and therefore he thought the Court should examine it closely, because, however anxious they might be to protect premises from fire, they should not be led in a panic to drive the trade and commerce out of the city of London, which would be the consequence of this Bill being carried out in its entirety.

On Monday evening Mr. Alderman Lawrence presented a petition from timber merchants and others engaged in the wood trade in the metropolis, against the Bill; also one from the Fishmongers' Company, with similar prayer.

It ought to be known that before completing the Bill the Metropolitan Board of Works invited the Institute of Architects and the District Surveyors' Association to send each three members to confer and advise with their Parliamentary Committee. This was done; the joint committee met a number of times; and the Bill was modified in various particulars in consequence.

We have already pointed out some of the peculiarities of the Bill, and will return to the subject if it go to Committee. The Board have agreed, we understand, to modify the clause objected to by the timber merchants.

The Board intend to propose in Committee the insertion of the following additional rules:—

"Every wall of a dwelling-house shall have a damping course; that is to say, a course of slate laid in cement or other material impervious to water, at a height not exceeding 1 ft. above the outer ground surface or the top of the footings, whichever is higher.

Where any room in a dwelling-house is below the level of the ground, and has a fireplace and window, a dry area shall be formed from the level of the footings to the top of the ground.

The ground surface or site of every dwelling-house, where not flagged over, shall be covered with good concrete at least 6 in. in thickness.

There are localities where the first and third of these requirements would be unnecessary, so that exceptions would be requisite.

ARCHITECTURAL PRACTICE.

MANCHESTER SOCIETY OF ARCHITECTS.

The president of the Society, Mr. A.W. Mills, in the course of his address to the last general meeting, said the next subject to which, for a few moments, I desire to call your attention is one that frequently occasions us a great deal of trouble, and leads us into a certain amount of responsibility. It is, the *materials and workmanship* which we are supposed to control in the conduct of our business. A rather long experience and observation satisfies me that in my knowledge of such things I am in my infancy,—the longer I live the more I have to learn. The ability displayed to supply an inferior material, and to cover it with loose workmanship, seem to me to have kept equal pace the one with the other. I take this opportunity of impressing upon you the necessity there is for showing no hesitation in dealing with the attempts which are constantly being made to supply us with materials and workmanship for our buildings which are not in accordance with the conditions of our specifications. The trouble and difficulty and ultimate responsibility which these proceedings sometimes lead to are incalculable.

The next point to which I shall refer is one which I venture to touch upon with a little delicacy; but, nevertheless, I think I may draw on the privileges of my office to do so. I allude to the *planning and contrivance of buildings intended for public purposes*, in which large numbers of people may be expected to assemble. In these buildings we very often find the most inadequate means provided for getting the multitudes speedily out. We have lately heard of one or more serious calamities, which might have been prevented, so far as the injury to life and limb is concerned, by proper attention on the part of the architect to this important requirement in preparing plans. I confess I have myself looked with considerable apprehension on more than one important building in case a panic should seize the occupants. The responsibility of an architect for the neglect to attend to the means of egress from any public building is very considerable. Although it may not be direct, the responsibility is nevertheless there; and it has occurred to me to ask if it would not be possible, in planning public buildings, to provide some extraordinary means whereby the public could on necessity escape, but which should not be used except on such an occasion, and which really need not form any part of, or interfere with, the external appearance or internal convenience, except on the especial occasion upon which it might be necessary to use it.

Before concluding, I shall draw your attention to one other subject, which we find constantly interfering with us in our practice, and subjecting us frequently to a large amount of difficulty and annoyance, and our employers to a large amount of expense. I allude to the asserted right of light over certain properties which we are occasionally called upon to rebuild or improve. There is scarcely any one of us who has not experienced some inconvenience in either protecting or destroying some right or supposed right having reference to light. In most cases the right to light over an adjoining property in a city like Manchester, which may be said to have been rebuilt in the last fifty years, has been acquired,—time has given the privilege,—no pecuniary consideration has purchased it; and it does appear to me very trying (giving my individual opinion) that the owner of a one-story building on a very valuable piece of land should be prevented building any higher because the owner of the neighbouring plot happens to have put windows out that overlook the lower building, which windows happen to have been formed over twenty years. After devoting some little time to the subject, I am inclined to think that a fairer law would be that the party said to be about to injure a neighbour's lights should not be restrained, unless it can be shown that the injury, if any, is incapable of being assessed at a money consideration.

THE NEW WATERWORKS, CANTERBURY.

These works are now nearly completed.

They are situated in Wincheap, alongside the high road leading from Canterbury to Ashford, on an oblong piece of ground, two acres in area, enclosed on three sides by brick walls 9 ft. high, and on the fourth, or south side, by the public road, bounded by a substantial dwarf wall and piers with iron railing, having appropriate entrance gates and doors.

The works in the enclosed ground comprise accommodation roads, an engine, boiler, well, and lime house, tall chimney-shaft, coal-store, covered softening and lime-water reservoirs, workshop, and offices; two wells or bore holes, powerful steam-pumping engine and pumps, and two steam boilers, together with a large open artificial pond, constructed for the purpose of cooling the heated water discharged by the air-pump from the condenser of the steam-engine. The heated water is so discharged from the engine as to fall into the pond in numerous small jets, that form a sort of fountain.

From the entrance-gates, as well as from the road before the works, the front elevation of the engine, and the boiler, and the well-house, the coal-store, and the softening reservoirs can be seen. This elevation shows a line of buildings about 170 ft. in length. From behind the boiler-house the main chimney-shaft rises to a height of 90 ft. The whole of the buildings, chimney-shaft, and mouldings are built of Gault bricks, having copings and string-courses of solid Portland stone, the whole being set in Portland cement mortar.

The pumping-engine works two sets of pumps. One of the pumps raises spring-water at the rate of 750 gallons per minute from one of two bore-holes sunk by the company into the chalk, and discharges the water into the adjacent

covered reservoirs, where the water is softened by Dr. Clark's well-known liming process. The other pump pumps the water from the softening reservoirs, after it is softened, at the rate of 500 gallons per minute, through the line of 12-inch pipes, two miles and a half in length, laid by the company, from the works at Wincheap, along Castle-street, St. Margaret's, St. Peter's-street, and St. Dunstan's, into the covered service-reservoir on the top of St. Thomas's Hill, situated at an elevation of 200 ft. above Westgate, or of 160 ft. above the paving of the engine-house floor at Wincheap. The engine is capable of working up to 100 indicated horse power, is of the most improved construction, and freely works both sets of pumps at once.

The bore-hole or well from which the water is pumped is 26 in. internal diameter, and is lined with cast-iron cylinders for 36 ft. in depth; beyond this depth the bore-hole is 24 in. internal diameter, sunk to a total depth of about 500 ft. The bore-hole stands quite full of water to a normal level of not less than 8 ft. 6 in. above the river Stour at Wincheap, and yields a much larger quantity of water than is required to supply the 750 gallons of spring-water per minute pumped up direct from the bore-hole.

The softening reservoirs are capable of softening about 350,000 gallons per day of twelve hours, or a much larger quantity, say 550,000 gallons in the twenty-four hours.

The walls surrounding the softening and lime water reservoirs are all covered with a roof built of wrought iron joists, and Portland cement concrete. The top surface of the concrete is rendered with Seyssel asphalte, 5-8ths of an inch thick, and the asphalte is covered over with a layer, about 8 in. in depth, of clean gravel stones. Altogether the roof is quite 2 ft. 3 in. in thickness, so that it is impervious alike to the heat of the summer sun, or to the cold of the winter frosts. This tends to preserve the normal temperature of the spring-water which, as it is pumped up, is 51° Fahrenheit at all seasons of the year. The weight of the roof is made to contribute to the strength of the two division walls between the reservoirs. These walls are only three bricks and a half, or 2 ft. 9 in. thick, including the thickness of the rendering, and have to sustain a depth of 15 ft. 9 in. of water, equal to a pressure of more than 3½ tons per foot run, or of 250 tons on their whole length. The walls alone would have been quite inadequate to sustain this enormous pressure, had not the weight of the thick roof been thrown upon them in such a manner as to contribute to their stability and strength.

The engineer is Mr. Homersham, and Messrs. Gaskin & Godden are the builders.

THE DERBY EXHIBITION.

THE Art and Industrial Exhibition at Derby has been inaugurated by the Duke of Devonshire, who is Lord Lieutenant of the county. The weather was fine, and the attendance of holiday observers was large. The magistrates, clergy, mayors of adjoining towns, and others, went in procession from the town-hall to the drill-hall, where the Exhibition is held. A "grand processional march," composed by a citizen of Derby, was played on the occasion, and an inaugural ode written for it by a clergyman, was sung. The local *Advertiser* thus describes the chief part of the Exhibition:—"We enter by the wide entrance in Becket-street immediately into the large court, which has been entirely covered with glass. On the right are arranged the bazaar stalls, most tastefully draped and decorated, having quite a fairy-like appearance. Opposite the stalls on the left of the court are arranged the ferneries, grottos, waterfall, fountain, &c. The effect produced here is really surprising. Passing on we enter by a prettily-draped archway into the great hall, the first sight of which impresses us at once with some idea of the immensely rich collection of works of art and beauty contained there. We cannot attempt to describe any of the varied contents of the Exhibition, but must content ourselves for the present with giving a mere outline of its arrangement. The great hall is divided by three high wooden screens into three broad avenues. Upon these screens are arranged the thousands of magnificent paintings which have been so liberally lent for exhibition. On the right and left of the centre avenue, near the door, are arranged long glass cases, containing, no doubt, the finest collection of china ever got together in the world. In the centre of the building is a tall glass case containing some splendid silver-plate, of exquisite workmanship and of immense value. Beyond this, the centre avenue is subdivided by two long screens, principally occupied by the water-colour drawings, in which the Exhibition is particularly rich."

THE LATE MR. HENRY GARLING, ARCHITECT.

ON the 9th of last month died, in his seventy-second year, Mr. Henry Garling, late of Bedford-row, and long a member of the Royal Institute of British Architects. Mr. Garling was articled to Mr. Page, of King's-road, Bedford-row, who, as usual in that day, combined the business of architect, surveyor, and builder; and, for three years after his articles, Mr. Garling acted for him in superintending (in fact, designing and doing everything, Mr. Page never answering any letters), in the remodelling of Grimsthorpe Castle, in Lincolnshire, for Lord Gwydir (Willoughby d'Eresby). He became a student of the Royal Academy, and gained the silver medal in 1818;—started for himself about the same time, or perhaps as early as 1816, and appears to have obtained a large practice as a measuring surveyor, and especially a large connexion with several of the best legal firms of the day as a surveyor in valuing for leases, mortgages, dilapidations, and all the matters connected with estates; and he became surveyor to Rugby School estates about 1821.

Architecturally, he was engaged extensively for Lord St. John of Bletsoe, Baron Vaughan, Earl Spencer, and the Carron Company, of Thames-street. The market-house at Guildford, and the Holborn Union workhouse, were also designed and superintended by him. He retired from business in 1847, having accumulated considerable property. He had a fine library, and had become governor of Christ's Hospital, St. Thomas's, Bethlehem, and other institutions.

We have heard him say, that when in Mr. Page's office he was associated as clerk with the father of Edmund Kean, the actor; and how Kean, asking him home to a very frugal supper, in some not very aristocratic neighbourhood, and probably "high up" there, would borrow half-a-crown to procure the necessary beer.

Mr. Garling was a man of remarkable powers of application in business, and especially notable for his intimate acquaintance with practical detail of every kind, an advantage he derived very much from the school in which he was trained. We received and printed notes from him up to within a few days of his death.

His son, Mr. H. B. Garling, has distinguished himself on more than one occasion.

MEMORIAL WINDOW, BLACKLEY.

A LARGE and handsome stained glass east window, to the memory of the late Rev. W. R. Keeling, B.A., 31 years rector, has just been erected in Blackley parish church, near Manchester, and for a long time will no doubt prove a source of attraction to the congregation and parishioners.

The window is in the Early Decorated style, and consists of five lights, each representing some important event in the life of Our Saviour; the first being the Nativity, the second the Baptism, the centre one the Crucifixion, the fourth is the Resurrection, and the last the Ascension. Below these groups are the traditional emblems in the following order,—the Alpha, the Lily, the Crest of the late Rector, the Rose of Sharon, and the Omega; while over each group is a brilliant canopy surmounted by another suitable emblem;—first, the Lamb, as symbol of innocence of infancy; then the Dove, as typical of the Holy Spirit; over the Crucifixion is the figure of the Pelican (emblematic of Love's Sacrifice); the Palm-leaves of Victory are set above the Resurrection; while the final scene, the Ascension, is surmounted by the Conqueror's Crown and Stars. A proportionate quantity of suitable ornamentation rests over these, while above all there is an elaborately decorated wheel-light, 5½ ft. diameter. The total height of the window is 21 ft., and its width 11 ft.

Our correspondent says this memorial reflects very great credit upon the firm that has designed and produced it,—Messrs. J. A. Forrest & Co., of Lime-street, Liverpool. The design was chosen in competition with several others. The cost will be over 400*l*.

PREVENTIBLE FATAL ACCIDENTS.

THOSE persons whose business in this life consists in warding off by all practicable means the approach of death, are never so much annoyed and put out of their reckoning as they are by a consideration of that persistent and growing increment of our mortality-tables, which is classified under the repressive head of Fatal Accidents. Whether they are engaged as physicians in the cure or alleviation of particular cases of human suffering, or as sanitary economists in battling with external circumstances, including general error and neglect (the true state-physicians), or finally as architects or engineers in the design and construction of improved buildings and machinery, the observation and study of these fatal accidents produce on the mind only the same feelings of deplorable regret.

Why should there be so many fatal accidents in the present day? we wish to inquire. Why should there be such a plentiful harvest of death in this precise field of our common mortality? There can be no doubt as to the facts, as our own columns will faithfully testify, and there is very little difference in their general description.

We must admit at once that it is quite possible to answer this very grave question in a certain fashion, at least, by the old and worn-out scholastic syllogism—they exist; *ergo* they were intended to exist: accidents have always happened, therefore they will continue to happen. Hence it may occur that many good people who are otherwise sensible enough are sadly led astray in their conclusions. Because of the regular and frequent occurrence of such accidental deaths, they have come to regard them as inevitable,—as regular factors of the great quadratic equation of our mortality-tables; or, in short, as the indispensable sacrifice which is annually demanded of us by the genius (or the fiend, as the case may be) who presides over our progress in science and the arts. But surely such a purely fatalistic notion cannot be correct. It will not bear the most slender scrutiny as a theory; nor, in our opinion, can it account practically even for the most obvious and perceptible causes of the fatal accidents which are accumulating every day around us.

There is, unhappily, also, a strong tendency among a certain able group of our modern statistical writers,—particularly of that materialistic school which is represented by Messieurs Quitelet and Augustus Comte,—to regard such phenomena with the perverted light of a grim and fatalistic philosophy, almost, indeed, as if their invariable and constant recurrence were a dispensation of Providence! Here is an example of their reasoning, such as it is. There are so many deaths in a given population per centum per annum. Of these deaths a constant quantity consists of fatal accidents. There are likewise so many suicides at the Pont St. Martin; so many dead bodies deposited at the *morgue*; so many people accidentally shot; so many letters without addresses dropped into the post-office. Such things happen regularly every year. Hence they proceed to demonstrate to their own entire satisfaction that a monster which they have created after the manner of Frankenstein, yclept the "average man," is subject, by the very laws of his constitution, and the conditions of his existence, to an average number of fatal accidents!

It is almost unnecessary to assert that this philosophy is likewise essentially false. The sanitary reformers, at all events, have been accustomed to make sad inroads upon the average statistics of disease and death, particularly when they began to combat a given death-rate. Sanitary works and death-rates, in fact, have a strong mutual repulsion to each other, or, at least, they possess a very strong natural antagonism; and certainly they play an important part in neutralising each other in the great problem of the duration of human life. If, then, that increment, which we may term the undrained element of the death-rate, does not represent a constant quantity,—but, on the contrary, can be shown to be reducible by wise precautions and plain scientific appliances, to a yet unascertainable degree,—how much more should this be the case with the increment which we just as rationally are in the habit of terming fatal accidents?

What is an accident? An accident, if we must need go to the root of the logical expression, is a mere property of an object which may be modified, or may be altogether abstracted or

eliminated without the object ceasing to be essentially what it is. It was a pure accident, for example, in the design of the Monument that its gallery afforded such fatal facility to certain unfortunate persons who seemed determined to commit suicide. It was not an essential feature in its constructions. And although many of the distinctions made by the older philosophers between accidentals and essentials are entirely fallacious, yet it is worth noticing that even the schoolmen were in advance of these modern fatalists in this important particular, that accidents as they held are always opposed to essentials or to substance. We need not refer to the analogous distinction in moral actions between principal and accessory, upon which is based the whole theory of our criminal jurisprudence, and upon which the celebrated Theodore Beza founded his well-known comparison between the state of affairs in this frail and transitory life, and that spiritual government in which the dicta of Providence reign supreme.

It was not, however, with the view of entering upon an abstract metaphysical disquisition that we began this paper. Our object was rather to show succinctly by the aid of a few actual occurrences how a great proportion of our fatal accidents may be foreseen, and by the use of simple but proper precautions be altogether prevented. In place of simply deploring them, we ought to struggle energetically to prevent them. But in order to prevent an accident we must first of all get to the root of its occurrence; we must ascertain its cause; and the true causes, at least the proximate causes, of fatal accidents will be found, if properly and patiently investigated, to proceed in nine cases out of ten from two very simple elements: the first of which is *ignorance;* and the second, *negligence*. Very seldom, indeed, in this country, unless it may be in Sheffield or in some recent instances which occurred in the sister island, can we allege malice as the occasion of fatal accident. Sometimes it may happen that the fault lies on the part of the individuals who suffer, as in the case of a perverse youth who ventures beyond his depth in water, who cannot swim. But far more generally, we suspect, the fault is due to society itself, which tolerates, or at least acquiesces, in the dangerous conditions by which human life is endangered or sacrificed.

Of course, it can never be seriously maintained that fatal accidents are only an accompaniment of our modern civilisation; for the pages of ancient history are profusely chequered with such unforeseen events. In one of the most beautiful of those exhortatory Psalms, regarding the vicissitudes of human life, which the Church of England has enshrined in her Book of Common Prayer, there are four similitudes introduced as illustrative of the miseries of the captive Israelites which we have often thought might be applied, with some modification, to our perilous condition in certain aspects of the present state of society. The first similitude is that of a traveller in a desert; the second that of a prisoner in a dungeon; the third that of a man in a dangerous sickness; and the fourth that of a mariner in a storm. We need not adduce the perils by land and the perils by water which the Apostle so touchingly describes in the account of his earthly pilgrimage.

We need not enter on the general subject of what are commonly called shipping disasters; although it is unquestionably true that they occupy a front rank in our sorrowful statistics. We can only stay to chronicle the fact that the number of shipwrecks on our own coasts reported to the Board of Trade during the past year reaches in all to the gigantic sum of 2,135. These figures contain no specification of the causes nor any estimate of the loss of life. But they are nevertheless sufficiently startling to demand the most searching and critical investigation. Those of our readers who choose to refer to the passages we have printed from the Board of Trade report on the wreck register will remember the terrible story which afforded some clue to the promiscuous as well as the precise causes of shipwrecks. One of the most common causes without doubt is collision; for it would appear that the high seas, wide and spacious as they are, are getting somewhat crowded. Over well-known and often-traversed ocean routes the danger is great; but in channels and the mouths of harbours it is very much greater; and during a dark and tempestuous night it is simply terrible. Collisions in the Thames have now become so notorious and so fatal that the day must soon arrive for a total revision of our river-police and our Admiralty regulations with regard to the number and dimensions of craft, the approach to quays, and the time for sailing. A general and thorough-going reform of the whole system of our coast-lights seems also to be urgently needed; and, what is still more imperative, a far more stringent and accurate definition of the laws relating to steering and slackening speed when vessels approach each other. Nothing, to our apprehension, is more horrible than to read an account of the foundering of a vessel at sea owing to a serious collision with a steamer or larger craft, produced in the latter case by imperfect steering or a careless look-out.

We have already compared the poor miners to the prisoner in the dungeon. But, alas! no dungeon is so deadly as a coal-pit. It would appear, also, that the more difficulty we have in bringing our minerals to the surface, the more the risk of death to the poor miners. As to explosions of fire-damp, it seems almost hopeless to suggest new remedies, in addition to what we already possess; and the same may be said of further sanitary legislation in this solitary particular. But this we can do, certainly: we can enforce the present law more stringently and effectually. And to this end we were glad to notice the other day that the magistrates of Aberdare had convicted a collier for smoking in the Navigation Coal-pit, and had sentenced him to a month's imprisonment. We are also glad to observe the juries getting more alive to their duties and responsibility. At the inquest held on the bodies of three of the six men killed by the recent explosion of fire-damp at the Hendreforgan Colliery, near Swansea, Mr. Wales, the Government inspector, strongly condemned the management of the pit, and expressed an opinion that the ventilation was not only insufficient, but that the arrangements for the distribution of air were "of the worst possible description." The jury returned a verdict to the effect that the death of the three deceased was caused by suffocation from after-damp, caused by an explosion of fire-damp; appending to their verdict a recommendation that the colliery should be at once placed under the control of a competent mining engineer.

How much meaning, alas! lies in that last recommendation,—a competent engineer. Put such a duly-qualified person in charge of every coal-pit, and we venture to say, if he possess the requisite powers, that the long and sad catalogue of fatal mining accidents will be very much reduced in number. And why should such a regulation not be made imperative, we venture to ask? We suppose there is no use in insisting further for the compulsory introduction of the double shaft in every mine.

And as to our railways, what more can we say? The *director* is, we are gradually discovering, just a modern species of the old and well-known *genus* impostor. Who shall estimate the loss of wealth which the British empire has suffered during the last twenty-five years from its foolish belief in the magical and symbolical substantive which is everywhere emblazoned over the portals of our institutions in the term *Board?* The most ingenious political casuist that ever lived—the Abbé Seyes himself—could have discovered no other method of government so perfectly well adapted to the end of evading all responsibility, and hence of perpetrating wrong.

We need not seek to support this position, as we have more than once, and quite recently, done so. Our present object is to assert more specifically—even on the time-honoured principle of "*Falsus in uno falsus in omnibus*,"—that ourwhole railway system is a mockery, a delusion, and a snare. It is a well-known axiom in medicine, where the head of an individual is suffering from vital and organic disease, there is too much reason to fear that the body, even to its very extremities, must also languish and consume. We have said enough, however, for the present about the dangers of railway travellers, whose remedy against railway mismanagement lies in sweeping actions of damages. But we may devote a few words in the interests of railway *employés*, to reiterate that some change is urgently needed in the constitution of their offices and the organising of their labours. It is impossible to take up a morning paper, particularly a country paper, without noticing the startling frequency of fatal accidents to railway guards, porters, or pointsmen.

Such cases of accidental death always press upon our attention the necessity, in the first instance, of all railway servants working under a certain definite and well-ordered code of regulations, which would render such accidents an impossibility; and, secondly, of employing only skilled workmen in such dangerous duties. Here we may recite the recent case of a young man, brought up in a country town, a farm servant in all probability, uninformed with respect to the laws of matter—*inertia*, for instance,—and totally unacquainted, it may be, even with the elements of mechanics. He is appointed to the situation of a goods-train guard. What is the consequence? He is crushed to death and run over by an approaching truck, while shunting part of his train into a siding. The reporter, indeed, tells us, that the guard fell, and in all probability he did so; but it is at least equally probable that he was knocked down by the truck, in front of which he was, or ought to have been, clearly out of place. Nevertheless, another man, from Kinross, or some country district more remote, will doubtless be got to take his place, possessed of an equal share of mechanical knowledge, railway experience, and presence of mind. He, too, will run the same risks, and be exposed to the same dangers. But very few people would think it anything extrordinary should he, in course of time, under similar circumstances, meet with the same cruel fate. The only miserable consolation we can find in this individual case, is the fact that the poor sufferer has left no widow or children to mourn over his premature death.

Something, we think, is due at the hands of the Government.

Our English constitutional Government is, doubtless, a great and a wise institution, but its warmest admirers are compelled to admit that it is sadly deficient in the paternal element, and that under some of its very highest phases of development it falls immeasurably short of our everyday requirements. We cannot help thinking that there is a screw loose somewhere. May it not be that we are somehow suffering under a false theory of political economy, or under erroneous ideas of what constitutes liberty?

Why, for example, should a poor man, who does not know the nature of carbonic acid, be permitted, as we have frequently asked, to commit unintentional suicide down an old well? Why should a poor over-worked London milliner be poisoned with the noxious and confined atmosphere of her work-room? Ought that mineral green colouring matter, of which the principal constituent is arsenic, be tolerated in the manufacture of paperhangings and artificial flowers? What must we do, to come nearer home, to put a stop to those fatal building accidents, which are for the most part a scandal and a reproach to our profession? Is there not the most urgent need for some reformation in the matter of bricklayers' scaffolds? Are all our projecting cornices safe? Are all our sewers and drains quite innocuous? What about our water-tanks and our gasometers? We need not go on with such common-place illustrations. Only this we may point out further, that our whole system of sanitary administration has been found grossly defective in regard to the poorer classes of society, and that here, as well as in other cases, we require a better and more effective system of supervision.

For, after all, we suspect the proper cure of this excessive mortality which is induced by fatal accidents will resolve itself into a system of police (that is to say, of inspection and of supervision), or public economy, as it was styled in Athens by Plato and his school. We have more than once pointed out the means; and let us add, that, whatever way the problem may be solved, we can only trust, in the interests of humanity, that it may be solved as effectually as it would have been done by those illustrious disciples of the Portico, who regarded the loss of an individual by accident as an irreparable loss to the state. There can be no doubt but our modern life is vastly more complicated in its relations; but our scientific knowledge is also greater; and accordingly it would be easier for us to guard against our fatal accidents, if we would only condescend to make use of the proper means. Ignorance such as we see may be enlightened, and negligence may be punished; but for apathy there is no resource; and we are all, perhaps, too apathetic on this subject. But it is high time we should bestir ourselves. The eyes of all Europe point to England as their leader in the practical applications of science. If we will first of all, therefore, learn to distinguish between an accident and an essential in this vital question, one step will be gained towards striking a vigorous blow at the root of it; to a

study of the preventible causes; to an application of the proper means; to an imposition of the necessary authority, and an enactment of the required regulations. We should then hear much less about fatal accidents, falsely so called; and nothing at all of that perverted philosophy which seeks, in the teeth of our better instincts, to classify them as an attribute of our modern civilisation.

MODERN HOUSE, PADERBORN, WESTPHALIA.

MR. GULDENPFENNIG, the diocesan architect to the Bishop of Paderborn, has recently erected several very remarkable modern houses in that town. The general idea of these buildings is derived from a careful study of the ancient domestic architecture of Northern Germany. The detail is of a somewhat earlier description than we are in the habit of seeing used in domestic work, and seems to partake of the style of the thirteenth century.

The house which we now illustrate is perhaps the most elaborate of this series of domestic buildings erected by Mr. Guldenpfennig. It is situated on the glacis of the town, and has attracted considerable attention from its quaint and remarkable appearance. At first sight, it is difficult to believe that one is really looking at a modern house, and expects to be told that it is a careful restoration of some ancient building; however, upon nearer inspection it will be seen that modern appliances are by no means disregarded, and that the architect, while building a highly picturesque and ornamental house, has also amply provided for the comfort and convenience of its inmates. We have not given a plan of this building, because the habits of a German family are so much more simple and primitive than our own, that many things which would be considered absolutely necessary in an English house are altogether omitted in a German house, and other things which we should consider of no importance are indispensable to the *menage* of a German household. In addition to which, the fact that three or four families live in one house makes an arrangement necessary which would be perfectly inapplicable to the same kind of building in England.

It will be inferred from our illustration that the house is built in the general form of the letter L, and stands at the corner of two streets. There are two entrances, one in the centre of the longest side, and the other most ingeniously contrived in the base of the tower: a detail of this is given in fig. 1. Over the principal entrance a bold and very picturesque bay-window projects, supported upon stone corbels, a detail of which is given in fig. 7. A second bay-window projects from the angle of the house; it is boldly bracketed forwards on wooden corbels (see fig. 2). The windows are all divided horizontally into two parts, the upper one being fixed and glazed in ornamental patterns, which in the principal apartments are formed of glass of various colours, arranged in intersecting circles and squares, but in the bedrooms they are formed of simple circles of greenish glass. Details of one of the more important windows are given in figs. 4, 5, 6. The lower portions of all the windows are wooden casements made to open.

The house is constructed of brick, laid in what we call "English bond," which, strange to say, seems to be the only "bond" used on the Continent. What we are in the habit of calling "Flemish bond" seems to be peculiar to this country, and is certainly not to be found in Belgium, or to the best of our knowledge, in Holland; so why it *is* called "Flemish bond" we leave to be decided by the writers of future architectural dictionaries.

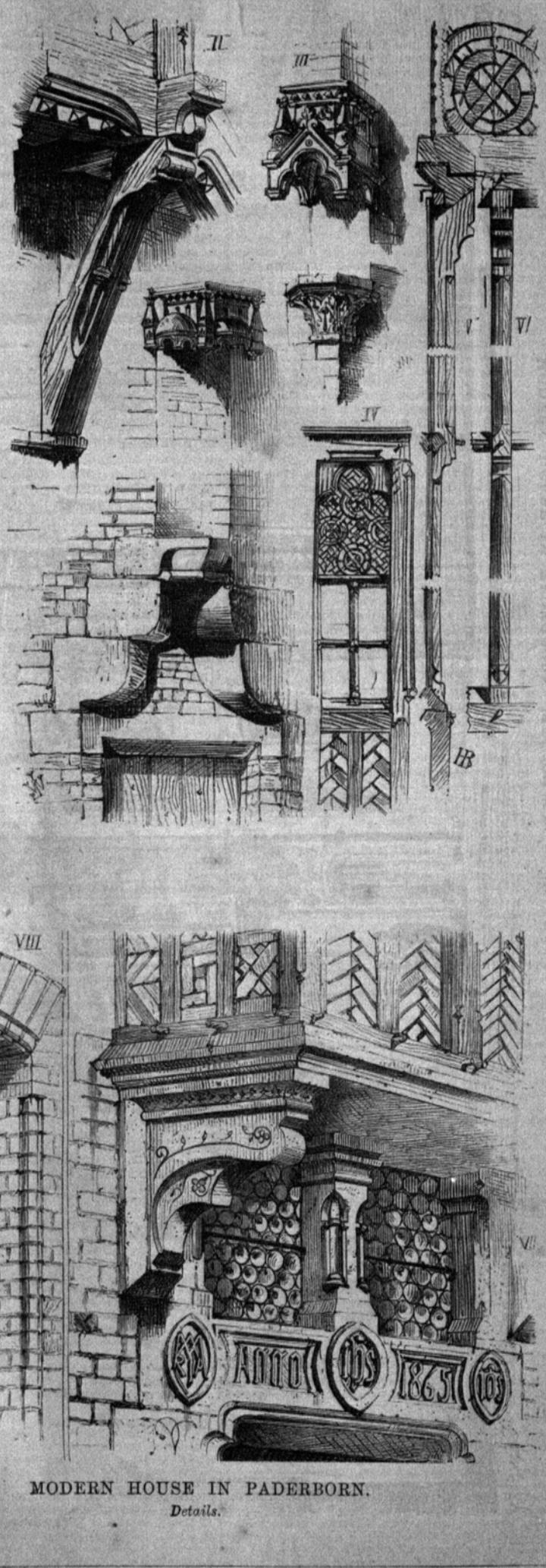
The brick is used with very thick joints, and the mortar kept back about ¼ in. from the face of the bricks. All the "putlog holes" are left open, a practice which is universal in ancient German brickwork. This kind of construction gives a very picturesque appearance to the building, and looks far better than our "tuck jointing" and "putty pointing;" in addition to which it is far more durable, and less expensive. The roof is slated, the slates being laid obliquely, as is the usual custom in Germany.

The interior of this house is as carefully studied and well executed as the exterior; most of the ceilings are divided into square panels by moulded ribs, and decorated in colour. The walls are also painted in diaper patterns.

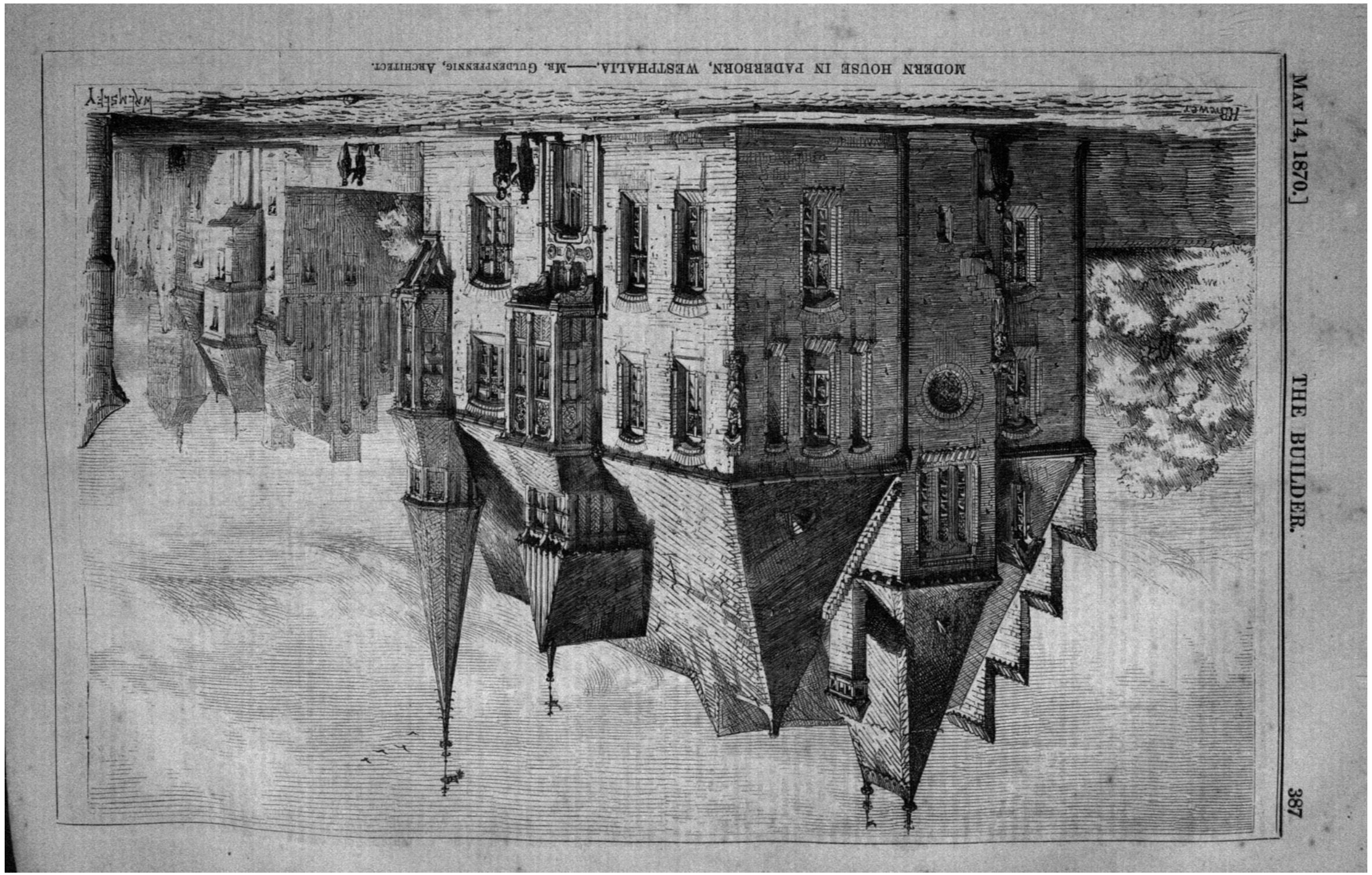
The Cathedral of Paderborn, a noble Gothic church, about 360 ft. long, is undergoing a thorough restoration, from the designs of the same architect, who is also engaged upon many other works in the diocese. Our illustration is from a drawing made for us on the spot.

REFERENCES.

1. Head of doorway in the tower.
2. Corbel of angle bow-window.
3. Niche at angle of house.
4, 5, 6. Details of windows.
7. Head of principal doorway, fanlight, and corbel of bow-window.
8. Portion of window on ground floor.



MODERN HOUSE IN PADERBORN.
Details.



MODERN HOUSE IN PADERBORN, WESTPHALIA.—Mr. GULDENPFENNIG, ARCHITECT.

SANITARY MATTERS.

A Fever-stricken Town.—Dr. Buchanan, a Government inspector, sent down by the Medical Department of the Privy Council, has been engaged in making a sanitary inspection of the town of Whitehaven. Attention had been directed to the high rate of mortality in the town, and inquiry showed that during the last four months there had been, out of a population of 19,000 people, between 360 and 370 cases of typhus fever, and one patient out of every six had died. The medical officer of the local Board of Trustees attributed the frequent occurrence of fever at Whitehaven to over-crowding and defective drainage. Out of 4,538 inhabited houses, 2,500 had no drainage, except the surface. He stated that he had urged upon the Board the absolute necessity of enforcing a proper and efficient system of household drainage. Dr. Buchanan inspected the town, which occupied him three or four days. The effect produced upon his mind by this inspection was that, after he had been in the town a few hours, he telegraphed to the Privy Council, that Whitehaven, infected and over-crowded, was not a fit place for the Cumberland Militia to assemble in for their annual periodical training. The adjutant has, by order of the Secretary for War, issued a notice countermanding a summons to meet there, and announcing that the Cumberland Militia are not to assemble this year.

Fever in Wales.—The neglect of sanitary precautions in some parts of Monmouthshire has led to alarming mortality. Defective drainage and the proximity of pigsties to dwelling-houses have borne the fruit that might have been expected. Pontnewydd and Cwmbran, villages between Newport and Pontypool, are suffering frightfully from typhoid fever. Blaenavon, a town numbering some 8,000 inhabitants, is in a deplorable state; and measles are carrying off the children at the rate of six or seven a day. It is computed that the death-rate had risen to the frightful figure of 163 per 1,000, instead of the usual proportion of about 20 per 1,000. The *Cambrian* states that fever is raging in and around Melincrythan, Neath.

Proposed Fever Hospital for Sheffield.—A meeting of governors of the Sheffield General Infirmary has been held, for the purpose of explaining the proposition of the medical staff and Weekly Board to erect a new building, isolated, for the treatment of offensive surgical cases and contagious diseases, in the house; also to explain plans and to take into consideration the best means of raising the necessary funds. Mr. Curry, architect of the new St. Thomas's Hospital, has prepared plans, and he estimates the cost of the building at 7,000*l.*: with the extras, however, it is expected that 10,000*l.* will be required. A resolution was adopted, authorising and requesting the Weekly Board to carry out the plans in such manner as may seem most expedient. It was also resolved, that in aid of the necessary funds for the erection of the new building, a subscription be forthwith opened. The Duke of Norfolk has promised 1,000*l.*, and Messrs. Mark Firth & Sons, 500*l.* Several other manufacturers have promised 250*l.* each, and nearly 3,000*l.* were subscribed in the rooms.

The Sanitary State of Edinburgh. — The medical officer of health has been making a survey of a district in the Old Town, of which we lately spoke. At a recent meeting of the town-council he gave in a report, in which he says:—

"The medical officer begs to submit to the town-council the results of a survey he has made of a limited portion of the Old Town, comprised between the High-street and the Cowgate, to the north and south, and between the South Bridge and George IV.'s Bridge, to the east and west. This he has done, not in consequence of any outbreak of disease in the district in question, but because he was anxious to make himself more thoroughly acquainted with the condition of the houses of the inhabitants. Some of the houses were in such a dilapidated state, or so confined in their dimensions, that the medical officer has brought them specially under the notice of the council as unfit for habitation. By far the larger proportion were much in want of ordinary repair, and were not in a cleanly state. The same may be said of the common stairs. The general want of water and of gas was noted as a sanitary grievance. The number of families living in this district has been estimated as 709. All of them pay largely for their house accommodation, and it seems but reasonable to insist that landlords should execute all necessary repairs. This, it appears to the medical officer, could best be effected by calling upon landlords throughout such an area as the one under examination to repair their property simultaneously, and not by singling out here and there individual landlords. In the one case, the repairs, when executed to the satisfaction of the authorities, would be paid for by increased rent, and the inhabitants, already high-rented, would find it impossible to resist the claim; but in the other case, if all the landlords of a district were compelled to put their property into a state of decent repair, it would be impossible to raise the rental of the district, and the inhabitants would reap the advantage in improved house accommodation. If the experiment proved successful, it could easily be extended to the other parts of the Old Town. With regard to the common stairs, the medical officer begs to refer to the report on their condition, recently presented to the Council, and also to the statements regarding them contained in his general report on the sanitary condition of Edinburgh, in which he has insisted on the cleansing and lighting of the common stairs as a most important step in improving the sanitary condition of the Old Town."

Lord Warwick and Sewage Irrigation.—The negotiations between the Earl of Warwick and the Leamington Local Board of Health, for the disposal of the sewage of the town on his lordship's estate, has been brought to a satisfactory termination, and the agreements between the Board and his lordship have been executed and exchanged. His lordship agrees to pay 450*l.* per annum for the sewage, which the Board are to be at the expense of pumping to a given point on his estate, when his lordship will undertake the entire responsibility of disposing of the sewage on land prepared for its reception. The agreement is to extend over a period of thirty years, and the necessary works are to be completed by the Board, and the delivery of the sewage commenced, on the 25th of March next.

Adoption by New Shoreham of the Leamington Sewage System.—The Local Board have had under consideration the report of a committee consisting of the chairman, and Mr. T. F. Gates and Mr. W. H. Harper, who were selected by the Board to visit the Leamington Sewage Works, along with Mr. Colbran, of Brighton, and report on the same with reference to the applicability of the system to Shoreham. After undergoing the deodorising process, the sewage, having been fairly dried by means of a patent revolving pan, said the report, is spread out in the open air for two or three days, and sprinkled over with sulphuric acid to fix the ammonia, after which it is riddled and thrown up into large heaps, where it remains a fortnight, and is completely dried by natural heat, and becomes manure, which is eagerly sought after by the farmer and market gardener. It is sold at 3*l.* 10*s.* a ton. Mr. Colbran stated that the scheme, with a few minor alterations in the way of economy, would be applicable to Shoreham. The cost of manufacturing the manure at Leamington was but 30*s.* a ton. There was very little steam required,—only a two or three-horse engine,—for lifting the mud from the bottom of the tank; and this at Shoreham, which was a much smaller town, might be done by hand. Some plans were laid before the Board by Mr. Colbran, who made no report, and they were approved of. The meeting decided upon a site for the sewage works, and left the treating for purchase in the hand of their clerk.

Land for the Sanitary Works at Kidderminster. Mr. Arnold Taylor, the commissioner appointed for the purpose, has attended at the Guildhall, Kidderminster, to inquire as to an application by the town council, to put in force the power of the Land Clauses Consolidation Act for the purchase of land for the sanitary works. The town clerk said the requirements of the Act had been complied with, as to the advertisements and notices. The commissioner then examined the plans. The proposed sewage farm is over 150 acres, and the population is estimated at 22,000 at the present time. The commissioner said that would be sufficient for a beginning, and Mr. Fairbank said that by extending the outfall sewage a greater distance, they could afterwards take other lower-lying land, if they required it. The commissioner said he had no doubt that fresh legislation would give them increased power of getting land for their purposes. The evidence taken in support of the application having been completed, and there being no opposition, the commissioner said it was gratifying to find that no one had appeared to oppose the scheme. With a rateable value of 42,000*l.*, they could obtain borrowing powers for nearly 84,000*l.*, and although they might not want this sum yet it would save a second application to the Government. The loan could spread over fifty years instead of thirty, which would make the payment of principal and interest much lighter for the ratepayers.

The Reigate Sewage.—At a recent meeting, the mayor said he had a further communication to present from the British Association, in reference to the treatment of the utilisation of sewage and the causes of its failure. It was proposed to select 250 towns or districts, representing types of towns whose works should be examined and reported upon. The committee desired to know whether, if Reigate were selected, every facility would be given to the examining engineers and chemists? The mayor further said he believed the Association asked for subscriptions. The matter was referred to the sanitary committee. A letter was read from the solicitors of Mr. Henry Clutton, with reference to the proposed sewerage works. The letter stated that the writers had been informed that under the present scheme one or more outfalls were to be constructed near the residential property of Mr. Clutton, called Dovers Lodge, to a stream that flows through his land, and he entered his formal protest against the scheme, as in case of heavy rainfalls, certain foul and noxious matter was sure to be sent there to the injury of his property. Under the 24th & 25th Vict., chap. 61, he felt that he would be compelled to take such steps as might be advisable to protect his interests. The solicitors requested to be informed how far the proposed scheme had been sanctioned or carried out. This letter was also referred to the sanitary committee.

LIVERPOOL ARCHITECTURAL SOCIETY.

AT the closing annual meeting of this society, Mr. F. Horner, president, in the chair, it was stated that the subscriptions received during the year amounted to 86*l.* 2*s.*, and there was a balance of 2*l.* 17*s.* 5*d.* in hand.

Mr. H. H. Vale was elected president; Mr. G. A. Audsley and Mr. John P. Bradley, vice-presidents; Mr. Parslow, librarian; Mr. G. F. Deacon, treasurer; and Mr. H. H. Statham, jun., secretary.

On the motion of Mr. S. Huggins, seconded by Mr. Bradley, a special vote of thanks was awarded to Mr. Statham for his valuable and indispensable services as honorary secretary during the past and preceding years: and on the motion of Mr. Boult, seconded by Mr. Vale, a similar compliment was paid to Mr. Bradley, the retiring treasurer.

The president, in his closing address, said, "I am sorry that we cannot congratulate ourselves upon any improvement in the position of fine art in Liverpool; for it seems this great community is still unable to restore and support its once noble annual exhibitions. We expect this year to be visited by the British Association. On former occasions while they were here these autumn exhibitions were open, and proved a source of great interest to many of their members. Are we this year, then, to betray the nakedness of the land, and practically admit that we have been obliged permanently to close the doors of our academy? I have often felt that it would well become the learned societies of the town to combine in endeavouring to raise art from the very low estate into which it has fallen among us, and I am sure that any such movement would meet with a hearty response and support from many of our wealthy connoisseurs who may have both the will and the power to help in so good a cause. Birmingham and Manchester continue to support their exhibitions creditably, and it seems a reproach to modern Liverpool that she cannot do the same."

TERRORISM AT MANCHESTER.

A DETERMINED attempt is being made to get at the perpetrators of the outrage connected with the brickmaking business at Manchester. In addition to 500*l.* offered by the authorities of Manchester, and 100*l.* to be given by Government, the master builders of Manchester and Salford have agreed to give 200*l.*, those of Birmingham 50*l.*, and Mr. Johnson himself 150*l.*, to induce those who are in the secret to betray the actual perpetrators of the simultaneous outrage at Mr. Johnson's house in Levenshulme and his timber-yard at Ancoats.

Should all this not suffice, as many thousands as hundreds of pounds ought to be offered for the purpose, as it is all-important that such proceedings should be put a stop to at the outset. Otherwise, should the villains escape in this instance, others may be instigated to pursue the same system of terrorism in order to accomplish their nefarious ends. Greek brigandage,—Irish Ribbonism,—is nothing to this; for in these cases respectable persons are safe so long as they do not expose themselves to peril in byways and country districts; but here is a case where terrorism is brought to their very doors. Mr. Johnson, we learn, dares not let it be known where he is to sleep from night to night. He is obliged to disuse his own conveyance, and skulk to and from his business and his home in unexpected modes, and at unanticipated times. His premises are watched by prowling scoundrels; and, worse than all, the Manchester police have

refused to protect him and his without double cost of constables!

Efficient protection, during the trial, to the Queen's evidence who may come forward, ought also to be widely published, else fear of murder will overcome the utmost temptation of reward. Safe and secret conduction out of the country, if desired, or from one part of the country to another, after conviction of the terrorists, ought also to be assured by advertisement, as well as the reward.

BRISTOL CATHEDRAL NAVE RESTORATION.

THE anniversary services in connexion with the efforts being made to restore this church have taken place at the cathedral.

Subsequently, about fifty ladies and gentlemen sat down to luncheon at the Royal Hotel, College-green, under the presidency of the Mayor (Mr. W. K. Wait). At the close of the repast the report was read, as also a letter from the architect, Mr. Street, after which the report was adopted, and resolutions were passed, cordially approving of a new north porch, for which the Mayor has subscribed 1,200*l.*, and the north wall of the nave, being both at once built, as set out in the report; and that the committee open a second subscription-list, to enable them to enter into a new contract for the completion of the nave. In course of the meeting Canon Norris said 1,100*l.* of the 1,200*l.*, in answer to the Mayor's appeal had been subscribed for raising the north wall of the nave on the east and west sides to about the same height as the porch. He also stated that besides the nave restoration work, the tower was being fully strengthened by the Dean and Chapter, at an expense of 6,000*l.*, and the cloisters were being restored by some friends. The Mayor said that if the money to complete the cathedral was raised in five years, a gentleman authorised him to state that he would head the list with 1,000*l.*

TURNMILL-STREET COURTS, CLERKENWELL.

ADMITTING, almost, if not altogether, your strictures on the above, I beg to submit that as a portion only of the houses in question, about the middle of the courts, have been rebuilt, *in situ*, no question arises under the Building Act. The entrances are untouched, and no new line of frontage is involved.

Whatever remedy may exist must, I think, be sought at other hands than of those of the

DISTRICT SURVEYOR.

P.S.—There is some improvement given in the shape of new habitations reduced in height one story,—now only two stories high. The building of proper model lodging-houses, adapted for the lower class, is still one of the unsolved problems of the day: certainly not touched by the Peabody dwellings—which we must discard.

APPRENTICES IN THE BUILDING TRADE.

SIR,—I send you a few thoughts about the rising generation of apprentices employed in the building trades. The men we are in want of, sir, are those who can work to a scale, interpret a plan, read, write, use the dividers, T-square, &c., as well as the manual part of the work. Apprentices, now-a-days, never think of taking up the *Builder*, building books, T-square, scales, &c., except for curiosity, and lay them down again in full belief that such things are not for such persons as themselves. We want to get the apprentices to study these things between times, to put their whole interest into it, to keep up what they have learnt, and increase it as much as they can. What we need is, the head and the hands together. How is this to be got? I think I hear some one say. We are likely to have compulsory education soon, and then we shall have good men. But, I answer, What is to become of those who are now apprentices? Well, sir, I think something might be done to make a school-room as pleasant as a public-house to pass an evening in improving the education of such persons. Many, I am sure, would jump at the thought of it,—persons who would, perhaps cannot, improve themselves for want of something of this sort. Are there no kind-hearted English gentlemen, builders, who would lend books for such a purpose? Would not the parish schoolmaster or some other competent person come for a trifle once or twice a week, to suit his own convenience, to be covered by a small fee or subscription? Something, I think, ought to be done to mend this state of things.

A BUILDER'S SON.

THE SAXON CHURCH OF WORTH.

SIR,—Remembering the efforts you made to save the sacrificed chancel of this church, then a Saxon plan intact, and the only one remaining in the kingdom, I think it right to inform you that its natural guardians are now taking down the spire, and I am told intend also to pull down the tower, a curious structure, you will remember, including in its construction the trunks of four large trees of quite unknown age.

ARCHITECT.

THE BRITISH MUSEUM.

SIR,—It must be satisfactory to you to observe the result of efforts made to procure the opening of the British Museum more frequently to the public, though the concession after all is not very great. Pray do not cease to advocate the continuous opening day by day throughout the year at nine o'clock, closing at the hours of five, six, seven, or eight, according to the time of year and duration of daylight. This would be comprehensible to the general public, but any elaborate scheme of days and hours for opening and closing (as just published on the notice-board, a copy of which I send), has only the effect of bewildering and disappointing visitors, who cannot carry in their memory all the details even if they have the patience to read and understand for once the long involved statement.

C. C. C.

"From the 9th of May to the 8th of August, 1870, inclusive, the public will be admitted to view the collections on Monday from ten until eight o'clock; on Wednesdays and Fridays from ten until six o'clock; and on Saturdays from twelve until eight o'clock. From the 9th to the 31st of August, inclusive, on Mondays, Wednesdays, and Fridays, from ten until six o'clock, and on Saturdays from twelve until six o'clock."

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

AT the annual general meeting, May 2nd, the following office-bearers were appointed:—

President:—Thomas Henry Wyatt.
Vice-presidents:—E. I'Anson, E. M. Barry, R.A., and A. Waterhouse.
Honorary Secretaries:—T. L. Donaldson (Foreign Corr.), J. P. Seddon (Home Duties).
Ordinary Members of the Council:—A. Blomfield, M.A., H. Currey, Chas. Fowler, E. W. Godwin, J. H. Hakewill, W. Burges, Darbishire, R. Kerr, E. Roberts, Roumieu, St. Aubyn, G. Truefitt, Austin (Canterbury), J. Fowler (Lowth), R. J. Johnson (Newcastle-on-Tyne).
Treasurer:—Sir W. R. Farquhar, bart.
Honorary Solicitor:—F. Ouvry.
Auditors:—E. A. Grüning and E. W. Tarn, M.A.

The Royal Gold Medal was presented to Mr. Benjamin Ferrey by the outgoing president, Sir W. Tite; and the other medals and prizes to the various successful competitors whose names we have before given.

SAINT PAUL'S BELL.

SIR,—Our attention having been directed to a correspondence in your paper respecting the diameter of the great bell at St. Paul's, permit us, as successors to the founder, Richard Phelps, to say that according to our measurement it is 6 ft. 10 in. in diameter at mouth, 4 ft. 7 in. from lip to shoulder, 5¾ in. thick at sound-bow, and of the estimated weight of 5 tons.

If any of your readers desire to measure the trammel or crook from which it was made, we shall be most happy to show it them if they will call on us.

A part of the original contract for making and fixing the bell is also in our possession.

MEARS & STAINBANK.

HALIFAX PERMANENT BENEFIT BUILDING SOCIETY'S COMPETITION.

IN reply to inquiry made in our pages, the Secretary writes:—

The directors of the society desire to state that they have not been idle since the drawings were sent in on the 8th of February. On the 5th of March they selected the first design, and in accordance with the "Instructions to architects," called upon the author to satisfy them that it could be carried out for the stipulated sum,—5,000*l.* On the 26th ult., at an interview with him, he was informed that he had failed to establish his statements. He expressed himself satisfied with the conducting of the competition, and withdrew from it.

On the 4th inst. another design was selected, and the directors are now calling upon the author of this design to comply with the same test.

PROJECTING CORNICES.

SIR,—Would you kindly supply some information as to the law or usage regarding projecting cornices and capitals? The cornice and capital at the Inverness Young Men's Christian Association have been, through the adjoining proprietor, a source of great trouble to us.

The cornice projects about 15 in., and the capital 6 in. or 7 in. The former is about 16 ft. and the latter about 12 ft. above the aforesaid proprietor's property.

Having failed, even though offering a premium, to get a contractor to undertake the work, the officials are threatened with imprisonment if it is not done in a few days. Your kindly giving the necessary information in the circumstances will be gratefully remembered by the Association.

ARTHUR ROBERTSON, Secretary.

*** The cornice and capital projecting over the property of the adjoining owner, he may enforce their removal unless arranged with. Probably he would accept an engagement to take away the projections, when his own requirements made the removal necessary. We do not understand why there should be any difficulty in finding a builder who would make the required alteration.

TENDERING.

As this is a subject that interests the whole of the building trades, I think a few remarks upon it would not be out of place here. The system as it at present stands, is certainly very unsatisfactory to competitors. I myself procured a specification of works to be done for the Metropolitan Board of Works (no bills of quantities being supplied); I went thoroughly into the job; sent in my tender at the appointed time, which is now over a month ago, since which time I have heard nothing whatever about it, neither has it appeared in the *Builder* or any other publication that I am aware of, or can find out; but on passing the site where the works are to be done on Friday last, I found that a builder was just commencing the job. Now, sir, I do not find fault because I am not the successful competitor, but I think that at any rate builders are entitled to a little more consideration, taking into account the amount of trouble and expense they are put to in estimating. It surely would not cost much if a copy of the amount of tenders had been sent to each competitor. What I think we should have is this, that a specified time being named to receive tenders, the architect should there and then open and state the amount of each tender to the builders or their representatives. Of course, I am aware that this is sometimes done, but why should it not be always so? Why leave us to think, as we are sometimes led to do, that there is some jobbery going on. An architect, above all others, should hold himself above even suspicion, and let his actions be done openly; then none can find fault.

A BUILDER OF SOME YEARS' STANDING.

THE SERPENTINE.

SIR,—Permit me to offer a few remarks on a letter in your last number, signed "W. E. H.," which contained the astounding notice that the Commissioners of Woods and Forests had resolved not to remove the remaining mud and sewage matter, but to bury it under sand and gravel, to percolate through hereafter, and leave it as bad as ever. No greater crying evil could be found than the Serpentine as it was, and I have watched with almost daily interest for several months past the admirable and efficient plans adopted to remedy all its defects. When the water was let off, the mass of filthy black mud (probably much sewage matter), was thrown up in heaps, leaving channels upon the solid bottom for the drainage. Thus far every atom of this fœtid filthy matter has been removed and buried in receptacles from which the pure fresh gravel, clay, and sand, had been obtained, and temporarily stored to form the new bottom of this splendid lake or river, and up to this time have been gradually spread on the solid bottom, from which the filthy matter had been removed to a carefully regulated depth. The remaining portion (not one sixth part of the great work), is in rapid course of removal, so that in a few weeks it will be entirely completed.

ARGUS.

PICCADILLY HILL.

SIR,—It would be a great comfort to those who, at this season especially, pass so frequently in carriages between St. James's-street and Hyde Park-corner, if the rise which has its apex opposite Devonshire House could be reduced by 2 ft. or 3 ft. It may be observed that omnibuses going west lock their wheels for the descent, and there is no description of horse or driver who does not appear to suffer in one way or another in passing along this much-frequented route. The existence of this trifling hill, too, is scarcely less annoying to the pedestrian, and must be an intolerable nuisance to the residents along that part, as it seems to necessitate having the road paved with granite, instead of its being macadamised like the rest of Piccadilly. Surely all this forms a grievance, which, like the entrance to Park-lane, is rather a disgrace in the present day to those who have the power to remove it.

LIEUT.-COLONEL.

PAROCHIAL SCAVENGING.

IT will be seen, on reference to our advertising columns of last week, that the vestry of St. Luke, Old-street, are about to follow the example of the Corporation of the City of London, in the dusting and scavenging of their parish. They have taken a wharf, purchased horses and carts, and intend to sweep and collect all the refuse of the parish with their own men; they are now ready to enter into a contract for its purchase and removal from the wharf by barges or otherwise. The proposals are to be sent in on the 18th inst.

This is a step in the right direction, for the sweepings and refuse of our streets are a valuable manure for certain lands, and will be a source of revenue to the ratepayers, besides the advantage of having the cleansing of the streets more under the control of the authorities than by the old system of contract.

The Vestry of St. Luke have, for the last two years, been cleansing their streets with men taken out of the workhouse and stone-yard, paying them 3*s.* per day. This part of the new system resulted in a saving of 400*l.* a year, exclusive of the saving of the rates, to the extent of the support given to these men in the shape of parish relief.

IMPERIAL INAUGURATION OF THE VIENNA WATERWORKS.

THE execution of this great work, after having been for several years under discussion, has been ultimately decided on.

The supply of water to Vienna and its suburbs, comprising a population of about 800,000 inhabitants, is a matter of the greatest importance. Hitherto the whole supply was obtained from the Danube. By the present project it will be drawn from the "simmering" at the foot of the picturesque Alps, from two springs, viz.,—"Kaiserbrunn" and "Stixenstein," whence the purest spring water will be conducted to the principal reservoir, the "Rosenhügel," a spot beautifully situated on a hill near Vienna. Here, on the 21st of April, the Emperor of Austria solemnly inaugurated these works, attended by the Imperial family, the Austrian Court, the English and other Ambassadors, the nobility, and municipal council of the city, and all the notabilities of the empire.

The total length of the line of these works, from Kaiserbrunn, and from Stixenstein to the Rosenhügel, is 312,375 ft., passing by Ternitz, Baden, Weikersdorf, Matzendorf, and Mödling. The two springs at Kaiserbrunn and Stixenstein are to join at Ternitz. There will be 24,900 ft. of tunnels, the longest of which, in the "Höllenthal," measures 8,463 ft. Through the whole length of the line the water will be conducted in walled and covered canals, worked with hydraulic lime and Portland cement, where the water level will be 6 ft. beneath the surface of the ground, to protect the water alike from frost and heat. The most important viaducts will be constructed at Baden, Mödling, Liesing, Maur, and Speising. From the reservoir at Rosenhügel the water will be conducted to the two other reservoirs at Schmelg and Wienerberg (called "Spinnerin am Kreug") in cast-iron pipes of 33 in. and 36 in. diameter. From these three reservoirs the water will be led to the interior of the town through pipes of the smallest diameter.

The Donan canal and river Wien are to be traversed by pipes, sunk beneath the bed of the river, in order to continue the system from the opposite banks, and the top edges of all the pipes will be also laid 7 ft. beneath the surface of the ground. The length of this line of pipes is about twenty-three English miles, and that of the whole system about eighty English miles.

The total length of the five viaducts is 8,382 ft., the longest of which, at Baden, is 2,769 ft.

The contractor for these works is Mr. A. Gabrielli, of Westminster Chambers, London.

KIRBY-HILL CHURCH, BOROUGHBRIDGE, YORKSHIRE.

KIRBY-HILL Church has been re-opened for divine service. A short time ago, in consequence of the dilapidated condition of the church, the opinion of Mr. Gilbert Scott was obtained. His plans were adopted, and the contract for carrying out the restoration was entered into with Messrs. Shafto & Barry, of York. They have completed the work under the direction of Mr. Alfred Roome, clerk of the works. Owing to limited funds, the original contract did not embrace all the restoration necessary to complete the church in its integrity, but this has since been done. The church is of great antiquity, and many remains of carved crosses and other stones, evidently of Saxon origin, have been found during the progress of the works. The south porch doorway is Norman, but the remains of two former doorways still exist beside the present one, some arch-stones remaining of one, and the jamb and carved impost of another. The Norman arcade dividing the nave from the north aisle has been restored. Some mural painting discovered upon the arches has been preserved. This arcade, also, from the appearance of the stones, is an insertion in a Saxon wall. The north aisle has been entirely rebuilt. In pulling down the walls of the former aisle, a fragment of tracery was found belonging to an ancient Decorated window. The design was traced, and has been carried out in the new windows. The whole of the seats in the church are now of oak, made from the original design, with carved poppy-head finials, and the ancient seats found in the church have been re-used. The main features of this church now present a similar appearance to what they did centuries ago, and there is sitting accommodation for upwards of 250.

SCHOOLS OF ART.

The Derby Central School.—On the eve of the inauguration of the Derby Art Treasures Exhibition, there was commenced at the Mechanics' Institution, Wardwick, a Central School of Art. The school is in connexion with the Science and Art Department, South Kensington, under Government inspection, and will receive a share of the Government grant according to the proficiency of the pupils. The school opens under distinguished patronage, and is to be worked under an earnest committee, by a very competent teacher. Some years ago an attempt was made under far less favourable auspices to establish such a school.

The Southampton School.—The foundation-stone of the new School of Art now in course of erection at the rear of the Hartley Institution has been laid. The stone bears the following inscription:—"Southampton School of Art.—This stone was laid by Mr. Councillor Chipperfield, chairman of the Hartley Council, on April 6th, 1870.—Frederick Perkins, esq., mayor; James Lemon, esq., M.R.I.B.A., architect; F. T. Bond, esq., M.D., F.C.S., principal; Messrs. Joseph Bull & Sons, builders." The building, according to the local *Independent*, is rapidly approaching completion, and is expected to be fit for occupation at the conclusion of the summer vacation.

CHURCH-BUILDING NEWS.

Shiplake.—The ancient church of Shiplake has been re-opened after restoration. The work has been carried out by Messrs. Wheeler, of Reading, from plans by Mr. G. E. Street, of London. The chancel is entirely new. The stained glass windows and polished marble pulpit are the principal features seen on entering the church. The whole of the north wall is new, as also the chancel; eleven windows have been filled with stained glass, by Messrs. Horwood, of Frome; the small baptismal window being presented by Sir R. Phillimore. The chandeliers were made by Messrs. Hardman, of Birmingham; the pulpit and reredos are of alabaster, carved by Mr. Earp, of London; the tiles were made by Godwin, of Lugwardine, those in the chancel being expressly manufactured for the Shiplake Church. The bells have been re-hung by Messrs. Warner, and a new one given by the vicar added to the peal. Messrs. Wheeler, of Reading, were the builders employed.

Breinton.—The Church of St. Michael, Breinton, on the Wye, has been re-opened. The present restoration consists of the re-building of the chancel on its old foundations, the old windows having been worked in again, and the partial re-building of the nave, the west gable, and western end of the south wall of which remain as they were; the remainder is new. The nave is divided from the chancel by a large and well-proportioned arch. On the north side of the nave a new aisle has been added, which is divided from the nave by an arcade of four pointed arches, carried on columns of blue Hannam stone, with moulded caps and bases. The nave is lighted on the south side by two windows, one having three lights and the other two. There is also an old lancet window over the circular-headed doorway at the west end. In the north wall of the aisle there are three windows, having two lights each, and of similar character to those on the south side of the nave. There is a long lancet window in the west end of the north aisle, and a circular window at the east end, over the archway leading to the organ-chamber and vestry. The floors throughout, the nave, north aisle, porch, vestry, and chancel have been laid entirely with tiles from Mr. Godwin's manufactory at Withington. The seats in the nave are of deal, varnished. All the roofs are new, and covered with slates; the nave, aisle, and vestry being open-timbered. The walls of the chancel internally are painted. There is a bell-turret, about 8 ft. square, at the west end of the nave, surmounted by a spirelet, treated entirely in slate and lead work. It is about 68 ft. high from the ground-line to the top of the vane. The cost of the work has been about 1,600*l*. The contractors were Messrs. Collins & Cullis, of Tewkesbury, by whom the work has been carried out from the designs and under the superintendence of Mr. Frederick R. Kempson, Hereford. The stained glass three-light window in the south side of the nave is the gift of Mrs. Eckersall.

Bilton.—The ancient parish church of Bilton having gone much to decay, has undergone a restoration under Mr. G. G. Scott, and the structure has been re-opened for divine worship. The expense incurred by the restoration is in round numbers the sum of 1,200*l*. The restoration has been carried out by Mr. Brumby, of York, the contractor. Mr. Brumby sublet the carpenter's and joiner's work to Mr. Dennison, of York.

Burton-in-Lonsdale.—The new church of All Saints, which has been built at the sole expense of Mr. Thomas Thornton, of Brixton-hill, London, "for the benefit of his native place," has been consecrated. The building is in the Early Gothic style. The site chosen is in close proximity to the old church, and upon ground formerly occupied by cottages, in one of which the benevolent donor was born. The dimensions are:—Nave, 66 ft. by 22 ft., with aisle, 66 ft. by 17 ft.; chancel, 33 ft. by 21 ft. The tower contains six bells. A residence for the vicar has been erected near the church. The parish church of Thornton-in-Lonsdale, which is about four miles from Burton, has also been consecrated after having been rebuilt. It is dedicated to St. Oswald, and the architecture is of a similar style to Burton Church.

Birstal.—The parish church of Birstal, which has been entirely rebuilt and enlarged, has been consecrated by the Bishop of Ripon. The total cost of the re-erection has been nearly 18,000*l*. The church is in the Early Perpendicular style of architecture. The extreme length within the walls is 118 ft. 6 in., and the breadth 80 ft., and height to ridge, 41 ft. The outer walls are all faced with dressed ashlar, which, together with the moulded and carved work, is executed in Huddersfield stone. The porches, north and south, are lofty, and have groined ceilings, with groined ribs. A battlemented parapet runs round the eaves and gables throughout, and is broken up by carved and crocketed pinnacles over the buttresses and at the corners. The apex is further enriched with crosses. The clear-story is lighted on either side with eight two-light windows, with traceried heads. The east window has seven lights, and the head is filled in with moulded decorated tracery. The end windows to the outer aisles are each three-light, traceried. The whole of the other windows are square, with cusped heads, and retain as near as possible their original position. The roofs throughout are of deal, with moulded trusses and traceried spandrels, and the chancel-roof has hammer-beams, on which angels are carved. The seats are of oak, with moulded and carved ends, and in the chancel are placed stalls, which were executed by a Cambridge firm. Messrs. Hardman & Co., of Birmingham, executed the stained-glass east windows. The ironwork in the nave is by Mr. J. F. Firth, of Birstal. Mr. Ruddock, of London, did the stone-carving in the chancel, and that in the remainder of the building was executed by Mr. W. Stevens, of Dewsbury. The whole of the building has been carried out by Mr. Thos. Whiteley, of Leeds, from the designs of Mr. W. H. Crossland, of Leeds and London. The church will seat 1,050 persons.

Pitminster.—The church here has been re-opened by the Bishop of Bath and Wells, after undergoing a restoration. The church was in a very dilapidated state. Mr. Allen, of Crewkerne, architect, prepared the plans for the restoration. The rough casts that were placed outside the tower a few years ago have been removed, and the stonework pointed, and made to look as it did originally. On the north side the walls have been renewed with flint and sandstone, with Hamhill dressings, and the porch has been raised and surmounted with a parapet, with carved cornices and angels' heads, with a cross in the centre. The old windows on that side have been taken out, and a couple of new ones substituted. A new roof has been put to the nave, and new clearstory windows. The organ gallery has been removed, the western side thrown open, and the southern aisle widened. The pews have been removed, and open benches substituted. The roofs of the nave and aisles are of deal, stained and varnished. A south porch has been built, and the roof of the chancel is of oak. A new chancel arch has been erected, and a new arch has been built between the north chancel and the north aisle. In the chancel there is a reredos, with diapered panels, and ornamented carving.

Ulcomb.—The parish church has been re-opened after having been restored. The works commenced in 1864, and have been from time to time since carried out by the architects, Messrs. Slater & Carpenter, as far as the funds would allow. The works consist of new roof on chancel, with panelled and moulded ceiling, as also all

the roofs throughout the church, the whitewash removed from the stonework, and replastered, the whole of the walls restored, the windows reglazed, and some new windows added, the old wainscot pews removed and replaced with open back wainscot seats, new reading-desk, altar table and rail, chancel paved with Minton's tiles, and the old pulpit renovated and replaced. The contractor was Mr. William Bottle, of Harrietsham. Two carved seats in the chancel have been given by Mr. Pepper, of Brighton. The old oak roof in Wandesforde Chapel has been cleaned and repaired, and the chapel has also been newly paved and plastered.

Great Yarmouth.—St. James's Church has been partly opened. The portion completed will form the chancel. The church has been designed by Mr. Seddon, upon a scale almost rivalling that of St. Nicholas. The extreme width between the aisle walls will be nearly the same, and the height of the chancel is not less lofty,—70 ft. The portion already erected presents a somewhat curious appearance, and gives no idea of the whole plan. It is constructed of brick and flint work, and is only a fragment of the design. When completed, the new church will accommodate from 1,000 to 1,200 persons; and its area will contain only four columns, so that sight and sound will not be interfered with. The plan is a Greek cross, with aisles parallel to the nave and chancel, bringing the general form nearly to a square. The style is Early Geometrical Gothic. There is to be no internal plastering, as the walls are finished in brickwork, diapered in colour. A lofty tower and spire are contemplated at the north-east angle. The cost of the chancel, as built, is about 1,000*l.*, and the whole church, when fully completed, will cost from 8,000*l.* to 10,000*l.* At present, however, the Iron Mission-room has been joined to its neighbour, and forms a north aisle. The new space will seat about 230 persons, so that with the iron aisle, 500 may join in the services of the church. All the sittings are free.

FROM SCOTLAND.

Edinburgh.—The executive committee of the Scottish national memorial of his Royal Highness the Prince Consort, finding that the sculpture intrusted to Mr. John Steell, R.S.A., and other distinguished Scottish artists, has made very satisfactory progress, and is already far advanced, have been considering the description of pedestal that ought to be erected, and have come to the conclusion, according to the *Scotsman*, that it ought to be of polished red granite, and not of freestone, as originally proposed. The granite pedestal, executed as proposed, would, it is said, be the finest granite work in the country, and it can be erected for about 2,000*l.* more than the committee have at their disposal for that purpose. They have, therefore, resolved to appeal to the public for the additional funds.——The eighth annual general meeting of the Edinburgh Workmen's Houses Improvement Company (limited) has been held, Admiral Sir Wm. Ramsay in the chair. The report stated that the progress was on the whole satisfactory. The net revenue arising from the rental of the houses enabled them to maintain the dividend of 5 per cent., and to add a further sum of 68*l.* 12*s.* 9½*d.* to the reserve fund. Although the houses built by the company at Dumbiedykes are at present all occupied, the report stated that the great extent to which building has recently been carried on in the neighbourhood of the company's buildings and elsewhere has had an appreciable effect on the letting of houses. Several of them stood vacant during the first and second quarters after Whit-Sunday, and one was vacant for three quarters. There continued a great demand for the lower rented houses, and it was only the houses of the highest rents (12*l.* a year) that there was any difficulty in letting. The report was unanimously adopted.——The late Miss Walker, of Coates, Edinburgh, has bequeathed her estates to the Scottish Episcopal Church. The value of the bequest is 200,000*l.*, of which, 40,000*l.* are to be devoted to the erection of a cathedral church in Edinburgh.

Linlithgow.—Since 500*l.* were given by Mr David Hutchison, of Glasgow, to improve and alter the parish church, considerable progress has been made towards that object. The estimated cost, it is understood, is fully 2,000*l.* Of this sum about 1,000*l.* have been promised, and Mr. J. Hardy, chairman of the town-council's committee, has been in communication with Mr. Ayrton, Chief Commissioner of Public Works, and Mr. Howard, of the Woods and Forests department, regarding Government assistance. Mr. Howard is prepared to recommend a grant of 100*l.*, on the condition that the other subscriptions amount to 1,500*l.*

Girvan.—The foundation stone of a United Presbyterian Church has been laid here. The edifice will be of the Gothic order of architecture. It is intended to contain 400 sittings, and will cost 1,600*l.* of which 1,000*l.* are already subscribed.

Melrose.—Some time ago, the Lunacy Board of Berwick, Roxburgh, and Selkirk shires resolved to erect an asylum for the accommodation of the insane within these counties. A site was fixed upon in the vicinity of Melrose, immediately to the north of the Eilden Hills, where a field twenty-five acres in extent was purchased from the Duke of Buccleuch at a cost of 1,500*l.* The general plan of the asylum buildings forms three sides of an elongated quadrilateral figure, with a centre block between the wings. The general height is two stories. The south-west front is 377½ ft. in length, and the south-east and north-west fronts 148 ft. 8 in., and the centre block between the wings surrounding a small open court is 100 ft. by 120 ft. The long line of the south-west frontage is relieved by the centre building, which consists of the recreation-hall on the ground, and the chapel on the second floor, being thrown forward considerably; and by the infirmaries, which are placed at the right and left angles, projecting 43 ft. forward from the general front line. It is further relieved by the style of architecture adopted in the centre division; large windows in keeping with the nature of the apartments (the recreation-hall and chapel) fill up the projection, and this again is surmounted by two towers, 35 ft. apart, rising to a height of 70 ft., or 34 ft. above the general line of the front elevation. On each side of the recreation-hall in the centre, the plan repeats itself,—the south side being intended for female patients and the north for males. Considerable progress has been made with the mason-work, upwards of 200 roods of wall being finished, but the building is not expected to be ready for occupation before the spring of 1872. It is intended to accommodate about 150 patients. The total cost will be about 30,000*l.* The architects are Messrs. Brown & Wardrope, Edinburgh.

The Tay Bridge.—The passing of the Tay Bridge Bill being now certain, the directors of the North British Company intend, it is said, immediately to proceed with the necessary preliminaries, so that operations may be commenced without delay. Certain important alterations are contemplated on the bridge, with the view of reducing the expense and improving the gradients. The works are expected to be begun by August.

Books Received.

A Text-book of Art Studies for Use in Schools and Families. By HENRY WARREN, K.L. London: William Mackenzie. 1870.

MR. HENRY WARREN has long been appreciatively known as the president of the Water-Colour Institute, and an excellent teacher of his art. Like all who think on the subject, he grieves over the ignorance in art matters that prevails, and the little care shown for it in general education, and he has issued this little book for schools to supply a want. It takes the shape mainly of a dictionary of painters, sculptors, gem engravers, and illuminators, chronologically placed, with observations interspersed on the art of the different periods. It is a little confused in parts, and wants careful revision by a literary hand. For example, speaking of water-colour drawings, by Ostade, in the British Museum, he says,—

"A great number of such drawings by Dutch and French painters exist in Holland and elsewhere; and they bring us down with little change of manner of execution to our own Paul Sandby, our Cozens, our Rooker, our Hearne, and so to our Girtin, and even our own Turner. Having executed many drawings in Scotland, he went, in 1752, to reside at Windsor, where he made above seventy views of the scenery in that neighbourhood. They are careful, elaborate, and characteristic, introducing as subordinate figures, many well-known personages and characters. His architecture, chiefly portions of the castle, are well and carefully drawn. They are executed in both body and transparent colour. They were all purchased by Sir Joseph Banks at a liberal price."

To whom this refers is not clear. It is certainly not to Turner. Nevertheless, the little volume is well calculated to be of service; wherever dipped into something or other useful may be picked out; and we shall hope to find it circulating.

The Science of Building: an Elementary Treatise on the Principles of Construction, especially adapted to the Requirements of Architectural Students. By E. WYNDHAM TARN, M.A., Architect. London: Lockwood & Co. 1870.

OLD readers of the *Builder* will not require an introduction to the author of this manual, Mr. E. W. Tarn, or to be told that he has given much more attention to geometry and mathematics than the majority of architects. In the present work he has sought, and successfully, to lay before the student of architecture and building a general outline of the scientific subjects connected with his profession, an acquaintance with which could previously be obtained only by going to a number of works by various authorities. The headings of the seven chapters into which the volume is divided, will show the scope of the work:—1. Mechanical Forces; 2. Retaining Walls; 3. Arches, Cupolas; 4. Building Stones; 5. Timber; 6. Iron; 7. Water contained in Vessels and Pipes; and a Table of Weight per Cubic Foot of Building Materials is given as an appendix. The title, "The Science of Building," is a little too large perhaps, but so far as it goes we have here a very valuable book, which we strongly recommend to all students. The author has sought, by avoiding the use of the higher mathematics, to bring the various subjects within the capacity of those whose mathematical attainments do not extend beyond elementary geometry and algrebra. Mathematical knowledge, however, to this extent is necessary for those who would avail themselves of the work.

VARIORUM.

"The Military Chest," and "The Beaver Trappers" (W. Tegg), are two capital little story-books, translated from the German of Horan, by John Henderson. Each little volume contains several stories, the chief in each case giving the title. They are tales of adventure, spiritedly told, and will please both boys and girls.——"The Auctioneers' Land and Estate Agents' Directory," by H. Allnutt (200, Fleet-street), contains a list of the principal auctioneers and agents throughout the kingdom. Some particulars as to Charges, and a list of useful books for auctioneers, land agents, &c., are worth the attention of those to whom they are addressed. Auctioneers and agents are much better paid than architects.——The current number of *Britannia*, edited by Mr. Arthur A'Beckett, and illustrated by Mr. Matt. Morgan, contains a number of amusing stories. Mr. Palgrave Simpson commences in it a story, "Worse than Death: a Tale of the French Revolution of 1848," which promises well. If we remember rightly, Mr. Simpson was in Paris during that event, and communicated some very valuable particulars to a London paper.——Mr. Tom Hood, fecund and fanciful, has contributed to *London Society* a capital paper on "*Vers de Société*," in which he introduces some good specimens of such compositions, and a humorous paraphrase, by himself, of Horace's "Integer Vitæ." Amongst the illustrations of the number, "Boating Life at Putney," sketched by Mr. Chasemore, is a genuine piece of fun.

Miscellanea.

An Architect's Quarrel.—In the County Court at Hereford, a case sent down from the Queen's Bench, has just been decided. It seems to have simply been one of accounts between the parties, and the judge grumbled at being obliged to act as an arbitrator in it. Mr. Payton, the plaintiff, and Mr. Haddon, the defendant, had been in the habit of acting together professionally, and the matter related to a balance due on their respective proportions of commission. The judge gave a verdict for 12*l.* 12*s.* beyond the amount paid into court, each party to bear his own costs of the day. Subsequently, the plaintiff complained of being called upon to pay his own costs, or rather that the amount was hard upon him, inasmuch as all the witnesses had been summoned upon his side. His counsel said his fees must be paid, also 2*l.* 2*s.* to one witness, 1*l.* 11*s.* 6*d.* to another, and so on. He really got worse than nothing, therefore, by his honour's decision. The judge said the question of costs was already settled.

Society for the Encouragement of the Fine Arts.—On Thursday, 5th, Mr. H. C. Selous read a paper on "Greek Art." Mr. R. Westmacott, R.A., occupied the chair. After a survey of the progress of Phœnician and Egyptian art, and their alternative magnificence and meanness, he proceeded to show how by his wonderful imitations of the human form, truth to nature and exquisite finish, the Greek sculptor, though ignorant of anatomy, had arrived at the highest point of perfection, which the Greek painter, from want of a knowledge of perspective, had failed to attain. Grecian art was of spontaneous growth, not an inspiration from Egypt, and this youth of art might be inferred from the Grecian carelessness, keen sensibility, and thirst for pleasure. The Assyrian artist was blind to the natural dignity of the human form, which was the element of every beauty and the perfection of every mechanical contrivance. He next adverted to the treatment of the male and female figure and its adornments by the artists of Greece, and compared the discernment shown in the criticisms upon the statues of Phidias with the indiscriminate praises awarded to half the pictures of the artists of the present day, who trusted to titles and long quotations for their success. He concluded with some remarks on the great personal beauty of the Greek nation, their intellectual love of the beautiful, and adoration of the human form, which he contrasted with the present senseless shapes, so destructive of perfect form and motion—high heels and waspish waists, that nature abhorred quite as much as a vacuum.

The Proposed Bridges at Grimsby.—According to the plans prepared by Mr. Sacré, and examined by the council, the footbridge over the railway company's yard, at East Marsh, Grimsby, will be a wrought-iron lattice girder bridge of the latest construction. The principal span will be 72 ft. clear over the railway and sidings; side spans, 50 ft. and 33 ft., to provide for future extension of sidings. The pillars supporting the bridge will be, therefore, a considerable distance from the railway metals, and consequently the less likely to form an obstruction to a train requiring a wide berth. The bridge over the Old Dock will also be a girder bridge of wrought iron, having a 45 ft. span swivel bridge across the channel. The bridge across the Old Dock is designed so that the work of construction can be carried on without interfering with the business of the dock, and for this reason the piers for the swivel bridge are to be on cast-iron cylinders, sunk to the brown clay, and these cylinders 4 ft. in diameter, will be sunk to the required depth by excavating the soil *within* them, and they will be afterwards filled up and made solid with brick in cement or concrete. The remainder of the piers are to be cast-iron screw piles sunk to the required depth by means of capstans, on Mitchell's principle. The plan of cylinder piers was originally designed by Lord Cochrane (afterwards Earl Dundonald), thirty-five years ago, but has only within the last few years been carried out in general practice. The cost of the railway bridge, it is expected, will not exceed 2,000*l*., and that of the dock bridge between 7,000*l*. and 8,000*l*.

Further Opening of National Gallery and British Museum.—In the House of Commons, on a motion for going into committee of supply, Mr. W. Allen submitted a motion in favour of opening the National Gallery and certain portions of the British Museum for the inspection of the public between the hours of seven and ten p.m., at least three evenings a week. The hon. gentleman had estimated the cost of lighting the National Gallery at 4,000*l*. per annum, and the British Museum at 6,000*l*., making a total sum of 10,000*l*. per annum. After some discussion, during which it was stated, on the part of the trustees, that the buildings were not constructed with the view of being lighted with gas, the Chancellor of the Exchequer reminded the House that a new National Gallery would in fulness of time be constructed in Trafalgar-square, and that perhaps a portion of the national treasures would be removed from Bloomsbury to a new building at South Kensington, and that both edifices might be so planned as to remove the obstacles to the introduction of gas which existed in the old ones. Mr. Alderman Lawrence having suggested that the British Museum should be opened every evening of the week during the summer months, Mr. Allen expressed himself satisfied with the ventilation which the subject had received, and withdrew the motion.

A New Synagogue for Newport.—The foundation-stone of a Hebrew synagogue has been laid on a site between Lewis-street and Francis-street, Pillgwenlly. The buildings will comprise a centre and two wings. In the centre is the entrance to the synagogue, through a lobby, of T shape, which will be paved with mosaic paving. From this lobby stairs ascend to the ladies' gallery, which will be placed over the west end of the synagogue. In the inner part of the lobby are lavatories, and over them are lavatories for ladies. The synagogue proper forms the right wing. It measures 37 ft. in length by 22 ft. in width, and has accommodation for about 100 persons on the ground floor, and about forty in the ladies' gallery. The interior will be lighted by four round-arched windows in each of the sides, and a group of four smaller ones of similar character in the end. The whole of these will be filled with embossed and tinted glass. The sanctuary will be to the east, and form a raised platform, with ornamental canopy over, and have at the back the recess for the rolls of the law. The roofs will be of open timber-work, divided into panels by the bracings, and the whole stained and varnished. The left wing is the minister's house, which will be of a similar description. The style of the building will be round-arched Italian of simple character, built of black rock, with Bodmer brick-moulded dressing, and the whole will cost about 800*l*. The architect is Mr. B. Lawrence, and the builder Mr. J. W. Chack.

The Street Tramway Movement.—The two-miles-and-half length of street tramway has been opened between Whitechapel and Bow Churches. The line is constructed by the North Metropolitan Tramway Company, and the works have been carried out by Messrs. Fisher & Parrish, American contractors, who have successfully supplied Liverpool and Dublin with similar conveniences. Owing to certain sewering operations in South London, the Brixton line, the opening of which we have recorded, is nothing like so perfect an illustration of the system as this in the eastern district. The registered number of passengers is 46. The cars are about double the length of ordinary omnibuses, and are built to seat 22 within, and 24 without. According to the provisions of the Act of Parliament, workmen are to be conveyed at the fare of one penny on particular journeys, morning and evening. The horses wear a minimum of harness, nothing, in fact, behind the collars, and the drivers are clad in the smartest of liveries. The calculation is that one horse on the tramway can do the work of three on the common road. The car is stopped by the break, rapidly applied by the driver. The vehicle is balanced upon Indiarubber springs. The Whitechapel undertaking has cost something like 4,000*l*. per mile.

Artists' General Benevolent Institution. The annual dinner of this institution has been held in Willis's Rooms, and numerously attended. The Duke of Argyll presided. Since its foundation 2,592 donations have been granted by it in sums amounting in the aggregate to 34,418*l*. The funds collected last year amounted to little short of 3,000*l*. This year an application having been made to Sir W. Tite, for a subscription towards carrying out a project for assisting the orphans of artists in connexion with the institution, he responded to the application by sending a check for 1,000*l*. In replying to the toast of the Royal Academy, Sir F. Grant said the Academy entertained the most friendly feelings towards all the other art institutions which held separate exhibitions. The Academy had learnt with much interest that an orphanage was being established under the auspices of the Council of the Artists' General Benevolent Institution, and he had been requested by the General Assembly of the Academy to place in the hands of the secretary a check for 500*l*. towards that object. The toast of the "Two Water-colour Societies and the Society of British Artists" was proposed by Mr. Kinnaird, and responded to by M. Carl Haag. The amount of subscriptions received at the dinner was announced to be 1,583*l*.

New Public Baths in Brighton.—The tenders of Mr. John Blackmore, of Brighton, to perform the builder's work for 920*l*. in the erection of the new public baths, and Messrs. C. & J. Reed, North-street, of 575*l*., to do the engineer's contract on that part of the baths which is to be built upon the site of the Infantry Barracks, at the bottom of Church-street, Brighton, have been accepted.

The Bradford Corporation Reservoirs at Horton Bank Top.—The work of constructing the two corporation reservoirs at Horton Bank Top is making progress. The reservoirs adjoin each other, one being on the north, and the other on the south side of the Bradford and Halifax road. They are both to be used as service reservoirs for the high-level district. Operations have been going on at the larger reservoir since November last. The smaller reservoir was begun about a month ago. At the larger reservoir more than two-thirds of the entire excavation has already been dug. The masonry intended to be put into the main outlet culvert is all in readiness. The east retaining wall and the lower puddle trench, which is 30 ft. deep and 21 ft. wide, have both been completed, and are waiting for inspection. The other puddle-trenches are also in a forward state, and a great portion of the masonry for the remaining retaining walls is worked and ready for use. The plant employed in the construction of the works is extensive. There are about 600 men on the ground, mostly excavators, and on an average they dig up and remove at least 1,800 cubic yards of solid earth per day. The work in the different departments is under the personal supervision of Mr. Fogg, one of the contractors, and of the engineer.

North Eastern Children's Hospital.—The Princess Louise will open a bazaar for the benefit of the building fund of the North-Eastern Hospital for Children, on Monday, the 16th of May, and two following days, in the large room of the City Terminus Hotel, Cannon-street. The Princess of Prussia and Princess Christian have sent contributions to the stalls, as have many other ladies. This hospital has been hitherto one of the best managed in London as regards the arrangements for *out-patients*, which up to the present time has been partly self-supporting. We have a strong opinion as to the good effect of making the poor contribute something. It saves them from the degradation of pauperism. The dispensaries and gratis hospitals do an immense deal of good, but, as we have before asserted, they injure the moral fibre of the poor, and they induce the habit of receiving charity, which unfortunately is extremely difficult to cure. We shall be glad to find substantial aid given to the Shoreditch Children's Hospital.

The Decoration of the Central Hall, House of Commons.—Mr. A. Seymour, in reference to a question on this subject, said he addressed it to the Prime Minister, because of want of courtesy on the part of the member for the Tower Hamlets. Mr. Seymour then asked the First Lord of the Treasury what instructions had been issued to Mr. Poynter with regard to the decoration of the central hall, and whether the cartoons exhibited by that gentleman at the Royal Academy's Exhibition were to be returned. Mr. Gladstone said, that he understood that Mr. Poynter had been promised that he should be employed in decorating the central hall, but he had been requested by the First Commissioner of Works to await the decision, which had not yet been arrived at, as to the method of carrying into effect the designs contemplated. The cartoons alluded to were the property of the Government, and could not be permanently returned to Mr. Poynter. They would be employed for some public purpose.

Proposed New Drill-shed for Rotherham.—On Tuesday night, a meeting of the Drill-shed Committee was held in the Corn Exchange, Rotherham, to consider the advisability of offering a premium for the best plans for the drill-shed which it is proposed to erect on a plot of ground at the end of Norfolk-street. After considerable discussion, it was decided to advertise in the local papers, offering a premium for the best set of plans for the intended building. The drill-room is to be 90 ft. by 50 ft., with a light gallery running round three sides, and a band-gallery at the fourth side.

Lambeth School of Art.—The annual meeting of the students and friends of the Lambeth School of Art was held at the School-house, Miller's-lane, Vauxhall; the Rev. Canon Gregory in the chair. The Bishop of Winchester delivered an address in relation to art; and there was a numerous attendance. The Rev. Canon Gregory distributed the prizes to about thirty students. Mr. Cresy, Mr. H. Doulton, the Rev. Mr. Carnes, Mr. Sparkes, and others addressed the meeting.

Monumental.—Six years ago a number of gentlemen associated themselves together with the object of obtaining a statue of Mr. Gladstone for St. George's Hall. The execution of the design was subsequently undertaken by Mr. Adams Acton, sculptor, who was to receive 1,000*l.* for the work. The result has now been placed in a niche at the east side of St. George's hall, immediately on the left of the statue of the late Earl of Derby. There has been a private unveiling of the statue, preliminary to the inauguration. Mr. Gladstone is represented in a standing posture, arrayed in the flowing robe of the Chancellor of the Exchequer. His right hand is crossed upon his breast, while the left lightly grasps a scroll.——The Emperor of Brazil has refused a statue which his people are about to erect to him, and recommends that the money should be spent on primary schools. The statue, however, is to go on.

Communication through St. James's Park.—Her Majesty has given permission to open a road, as soon as possible, from St. James's-street, through the end of the park, to Storey's-gate, for carriages, hired cabs, and riders on horseback. When Parliament-street is widened, this new and temporary route may be closed. Mr. Ayrton, in announcing this in the Commons, said also that when the metropolitan authorities decided on such an outlay, the Mall might be continued to Charing-cross in a straight line. No doubt, he added, an opening giving a complete vista of the Mall from the Strand would be a great improvement, and would be sanctioned by public opinion; but long since the Government had ceased to make improvements for the benefit of the metropolis out of the national exchequer.

"The Auto-biography of an Octogenarian Architect."—Under this title, Mr. G. L. Taylor (joint author with Cresy in the "Architectural Antiquities of Rome") is about to publish a record of his studies at home and abroad, during sixty-five years, comprising among the subjects treated of the cathedrals of England, France, and Italy; the temples of Rome, Greece, and Sicily, with explanations of their various styles—and plans, from measurement; also, incidents of travel, and sketches of other buildings and objects on his route, from notes and measurements during tours through England, France, Italy, Greece, and Sicily, in 1816-17-18-19 (principally on foot), with re-visits in 1857 to 1868. It will be published through Messrs. Longmans & Co., by subscription, the number of copies limited, and can scarcely fail to be a work of considerable interest.

The Water Supply, Rawmarsh.—The report of the Water Committee was read and adopted. It contained the certificate from Mr. J. F. Bateman, London, approving Mr. T. W. Roome's detailed plans for the sewerage and water supply of the Rawmarsh Local Board district. The chairman said that the plans which had been prepared by the surveyor, in connexion with the Rawmarsh water supply, did the greatest credit to him. He had pleasure in proposing that a donation of ten guineas be presented to the surveyor for his services in preparing the plans. This was unanimously passed.

Sea Water for London.—A "Learner" writes: A sea-water lake of ample circumference would be a great boon to the inhabitants of London. Salt water might be forced up, on an elevated part of the coast, and conducted perennially, into a thermal reservoir. Many lives would be saved, many morbid states cured and prevented by it, and the physical condition of the population much improved. The surplus water might help to flush the sewers.

Royal Gallery of Illustration.—Mr. German Reed has secured the services of Mr. Corney Grain, a new vocal and pianoforte humorist, whose delineations of society in its various phases have been received for some time past with great relish in private circles. On Monday, May 16th, Mr. Grain will appear in a musical sketch written by himself, and entitled, "The School Feast." "Ages Ago" is to be withdrawn, to make way for a new Entertainment by Mr. W. S. Gilbert.

Bells for Melbourne.—A set of five bells have recently been cast by Mr. John C. Wilson, Gorbals Bell Foundry, Glasgow, for the tower of the General Post-office, Melbourne, and to the order of the Government of Victoria. The tenor, or hour bell, weighs 32¼ cwt., and the four smaller bells are for chiming the quarters.

The New Music Hall, Sheffield.—In consequence of the contractors, Messrs. Nelson Brothers, having requested to be relieved from their engagements for the masons', bricklayers', and excavators' work required for this new building, the directors have re-let the contracts to Messrs. G. Longden & Son; and the workmen have commenced to clear and level the ground ready for the excavation of the cellars and foundations of the building.

The Institution of Civil Engineers.—We are given to understand that the late Mrs. Appold has left to the Institution a legacy of 1,000*l.*, payable at the same time as the legacy for a similar amount from her husband, the late Mr. J. G. Appold, F.R.S., Assoc. Inst. C.E. It is believed that both bequests have been made "for the general use and benefit of the society," without being fettered with any conditions.

Opening of the Paris Fine Arts Exhibition.—The annual exhibition of pictures, sculpture, and other works of art, was opened on the 1st of May, according to custom. The total number of works shown amount to 5,434. The pictures in oil number 2,991, and occupy twenty-three rooms (eight more than usual); they are all hung in alphabetical order.

Acoustic Science.—A Parisian *savant*, M. Lissajous, has been profitably lecturing upon acoustic science, says the *Musical Standard*, and particularly upon the phenomena of sound and flame, the emission of musical sounds by flames passed through tubes of proportionate length (as set forth at the Royal Institution of London),—a process which he entertains a hope of bringing to some practical utility.

Sir Francis Crossley's Gift to Halifax.—The governors of the Halifax Infirmary have resolved that in consequence of the munificent gift of 10,000*l.* by Sir Francis Crossley, bart., M.P., towards a new building, all schemes for altering the present infirmary be abandoned. The estimated cost, exclusive of the ground, is 20,000*l.*

Palestine Exploration Fund.—The annual meeting of the Society for Promoting the Investigation of the Holy Land will be held at the Royal Institution on Monday, the 16th, at three o'clock. Capt. Warren will give an account of his most recent excavations.

Fall at Waverley Bridge Station, Edinburgh.—A portion of the south-east corner of the passenger-shed of the Waverley Bridge Station of the North British Railway Company, Edinburgh, has fallen to the extent of 40 ft. by 60 ft. Fortunately no one was injured.

Foreign Joinery.—It is generally understood that the greater part of the foreign joiners' work imported into this country is manufactured by machinery made in England, principally in London, and exported for that express purpose.

Roman Remains in Bath.—The excavations that are being made in Bath for the construction of the new Pump Room Hotel have brought to light some very interesting Roman remains.

A Proposed Canal.—A memorial is being submitted to the Birmingham iron trade in favour of a canal from Gloucester to the Severn, navigable for vessels of 2,000 tons.

The Albert Institute at Windsor.—Her Majesty, on application, has stated that she will contribute 100 guineas to this Institute whenever the building is in course of erection.

The Pharmaceutical Society.—This society will hold a *conversazione* in the South Kensington Museum on Wednesday evening, the 18th.

The Royal Society.—Of the fifteen candidates selected by the council for election to the honour of F.R.S., *five* are Doctors of Medicine.

Architectural Education.—The Voluntary Examination is now going on at the Institute of Architects. There are ten candidates.

TENDERS.

For alterations to the Old Eagle, College-street, N.W. Mr. F. F. Holsworth, architect:—

Wheeler	£358 0 0
West	250 0 0
Kelly, Brothers (accepted)	246 0 0

For house, stables, &c., at Tupwood, Caterham, for Mr. J. T. Redgate. Mr. Richard Martin, architect. Quantities supplied by Mr. Frederick Sparrow:—

	House.	Greenhouse and Conservatory.	Stables.
Roberts	£3,250 0 0	£379 0 0	£499 0
Blackmore	3,248 0 0	331 10 0	527 0
Pollard	3,145 0 0	243 0 0	585 0
Turner & Son	3,141 0 0	293 0 0	513 0
Williams & Son	3,178 0 0	277 0 0	487 0
Dove, Brothers	2,975 0 0	325 0 0	505 0
Hearle	2,997 0 0	335 0 0	465 0
Ward	3,000 0 0	250 0 0	424 0
Chappell	2,888 0 0	241 0 0	451 0
Jarrett	2,850 0 0	246 0 0	450 0

For stables, &c., in Tichborne-row, Edgware-road, for Messrs. Eastman & Son. Mr. H. T. Northcroft, architect:—

Scott	£2,197 0 0
Winship	2,180 0 0
Manley & Rogers	2,077 0 0
Higgs	2,053 0 0
Nutt	1,955 0 0

For erection of the Birmingham Edge Tool Works at Aston. Mr. William Hale, architect. Quantities supplied:—

Wykes	£1,120 0 0
Moffatt	1,078 0 0
Messrs. Webb	1,066 0 0
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Surman	981 0 0
Blore	900 0 0
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For alterations and repairs to dwelling-house and stables, No. 39, Bedford-place. Mr. Lewis Solomon, architect:—

Bridgman & Nuthall	£586 0 0
Wood	583 12 6
Pittman	436 5 0
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Haward, Brothers	9,650 0 0
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Wood	9,337 0 0
Anscombe	8,990 0 0
Blackmore	8,955 0 0
Mitchell	8,800 0 0
Bayes & Ramage	8,770 0 0
Macey	8,769 0 0
Adcock & Rees	8,529 0 0
Nightingale	8,410 0 0
Henshaw	8,377 0 0
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Looseley	1,754 0 0
Woodbridge	1,750 0 0
Reavell	1,750 0 0
Hamlin	1,749 7 4
Wood & Co.	1,699 0 0
Ward	1,695 0 0
Hunt	1,680 0 0
Spicer	1,670 0 0
Cooper	1,664 5 0
Morrison	1,641 6 0
Nightingale	1,555 0 0

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Sawyer	1,153 0 0
Oader	1,025 0 0
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Reavell	448 0 0
Price	445 0 0
Partlo	423 0 0
Woodbridge	410 0 0

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Penny	1,689 0 0
Jerrard	1,658 0 0
Bates & Lucas	1,655 0 0
Pain & Balding	1,595 0 0
Beaton	1,530 0 0

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WANTED, by a Builder's Clerk, a SITUATION, in the Office of a Builder and Contractor. Is well acquainted with the general duties of a Builder's Office, including prime cost. Can give good reference. Age 24.—Address, J. H. 27, Carter-lane, St. Paul's, E.C.

TO BUILDERS, &c.

WANTED, by a Carpenter, a permanent SITUATION. Is married—no encumberance. Could manage small business. Can set out work, and prepare drawings. Can have ten years' reference from former employers.—Address, G. C. T. 15, George-street, Hampstead-road, N.W.

TO CIVIL ENGINEERS, ARCHITECTS, AND OTHERS.

WANTED, a RE-ENGAGEMENT, as CLERK of WORKS, or as GENERAL MANAGER, by a thoroughly practical Man, well up in levelling and plotting for drainage of towns, tunnelling, river embankments, and heavy building operations.—Address, JAMES ANDERSON, 24, Herbert-street, Hoxton, London, N.

WANTED, by the Advertiser, a SITUATION, as GAS and HOT WATER and GENERAL HAND. Can do plumbing and bell-hanging. Aged 33.—Address, C. H. 21, Edward-street, Dorset-square.

WANTED, by a practical Man, a SITUATION as SHOP FOREMAN of JOINERS. Six years' reference from last employer.—Address, B. F. 86, Mildmay Park, Islington.

TO ARCHITECTS, &c.

WANTED, a RE-ENGAGEMENT as CLERK of WORKS. Twenty years' experience. Testimonials first class. Well up in church work, quantities, measuring up works, &c. Age, 45.—Address, A. Z. Z. Mrs. Everard, Kintbury, Hungerford, Berks.

TO BUILDERS, CONTRACTORS, AND OTHERS.

WANTED, by an experienced Builder's Clerk, a RE-ENGAGEMENT as BOOKKEEPER and ACCOUNTANT. Well up in prime cost, and day-work accounts, estimating, and measuring, &c. Good references.—Address, ALPHA, Post-office, 53, Roman-road, Old Ford, E.

WANTED, a RE-ENGAGEMENT, as GENERAL FOREMAN or CLERK of WORKS, by a thoroughly practical and energetic Man (in town or country). Thoroughly conversant with the management of all trades, measuring up works, &c. First-class references and testimonials.—Address, 513, Office of "The Builder."

TO MASTER PLUMBERS AND BUILDERS.

WANTED, by a good practical PLUMBER a SITUATION, permanent or otherwise. Country not objected to.—Address, 476 Office of "The Builder."

TO BUILDERS AND CONTRACTORS.

WANTED, a RE-ENGAGEMENT, as CLERK and CASHIER. Aged 24. Eight years with last employers. Excellent references.—Address, 118, Office of "The Builder."

TO CONTRACTORS AND BUILDERS.

WANTED, by the Advertiser, a SITUATION, in any position of trust and confidence. Has been with a London firm several years as Cashier and Agent for very extensive works. Well acquainted with the business. Good references and security if required.—Address, 331, Office of "The Builder."

TO SMITHS, &c.

WANTED, by a good Workman, a SITUATION as above. Good references.—Address, T. EVANS 98, Post-office, Shepherdess' walk, City-road, N.

TO BUILDERS AND DECORATORS.

WANTED, a RE-ENGAGEMENT, as MANAGER or FOREMAN of PAINTERS, &c. Aged 40 Twenty-six years in last employ. Can estimate, measure, and value work.—Apply, terms, &c. H C. 6, Evangelist-court, Ludgate-hill.

TO BUILDERS AND DECORATORS.

WANTED, by a Young Man, a SITUATION. He is a good grainer and paperhanger, and would not object to make himself useful in painting.—Address, C. C. 14, Henrietta-street, Manchester-square, W.

WANTED, a RE-ENGAGEMENT as SHOP or GENERAL FOREMAN, or Take Charge of a Job. Aged 45.—Address, J. E. Mr. Green, Builder and Decorator, 442, Edgware-road.

TO ARCHITECTS, ENGINEERS, AND OTHERS.

WANTED, by a CLERK of WORKS, a RE-ENGAGEMENT. Well up in all branches. Just finished an extensive job (bricklayer). First-class testimonials. No objection to the country.—Address, E. M. Office of "The Builder."

WANTED, by the Advertiser, BRICKWORK, CUTTING, or POINTING to any amount, labour only, or as FOREMAN.—Address, B. 53, Church Hill-road, Hackney.

TO BUILDERS, CONTRACTORS, &c.

WANTED, a SITUATION, as CLERK to the above. Thoroughly understands the routine of the office, including prime cost. Good references. Age 23.—Address, W. R. 58, East Bond street, Leicester.

WANTED, by the Advertiser, a SITUATION in an ARCHITECT'S or DISTRICT SURVEYOR'S OFFICE. Age 22. Salary moderate.—Address, No 659, Office of "The Builder."

TO CARPENTERS AND JOINERS.

WANTED, by a Young Man, aged 22, with seven years' experience in country, a PLACE as IMPROVER. Address, J. F. care of G. Buckhurst, Cobham, Surrey.

WANTED, by the Advertiser, BRICKWORK, CUTTING or POINTING, piecework or otherwise, in town or country. Good reference given.—Address to J. A. 35, Lowman-road, Hornsey-road, Holloway.

TO BUILDERS AND DECORATORS.

WANTED, by a thoroughly trustworthy Young Man, a SITUATION as CLERK. Aged 29. Well up in prime cost, &c. First class testimonials.—Address, J. R. H. 168, Hill-street, Walworth, S.

TO BUILDERS, &.

WANTED, an ENGAGEMENT, by a SURVEYOR'S ASSISTANT (aged 28) of several years' experience with Surveyors and Builders. Good measurer and estimator, &c. References as to ability, &c.—Address, H. P. 15, Alfred-place, Bedford-square, W.C.

TO PLUMBERS AND DECORATORS.

WANTED, CONSTANT, a thoroughly practical Man, a good Plumber, Glazier, Painter, Writer, and Grainer, as a WORKING FOREMAN. He must be highly respectable, steady, energetic, a good manager, capable of measuring work, none other need apply. The highest references will be required.—Apply, stating wages, age, if married or not, to J. C. Post-office, Abingdon, Berks.

WRITERS and GRAINERS.—WANTED to APPRENTICE a YOUTH in the above trade, indoor. Premium small. Wages no object.—Address, P. J. at Howlett's Library, Liverpool-road, N.

WANTED, by the Advertiser, a SITUATION as TIMEKEEPER, STOREKEEPER, or CLERK in a BUILDER'S FIRM. Age 30. Terms moderate.—Address, D. HARVEY, 3, Henry-street, New-cross-road, S.E.

TO ARCHITECTS.

WANTED, by a Young Man, who has served his articles in Lincoln, a SITUATION as JUNIOR ASSISTANT in an Architect's Office. London preferred. The advertiser is well up in the general routine of office work. He has also been a pupil in the Lincoln School of Art (6th in U.K.) from its establishment in 1863, and during the last two years a free student in it. Last year, among other prizes, he received the Queen's Prize, and the first local prize for architectural drawing from Lincoln Cathedral. Good references.—Address, F. W. D. Christ's Hospital, Lincoln.

TIMEKEEPER, CLERK, &c.—WANTED, by a Young Man, used to receiving material, and to large job. Satisfactory reference to present employer.—Address, A. M. H. 1 Bodley-street, Walworth.

TO BUILDERS AND CONTRACTORS.

THE Advertiser, who has been engaged for upwards of 16 years as Draughtsman, Cashier, Prime-cost Clerk, &c. will shortly be open to an ENGAGEMENT. First-class references.—Address, 635, Office of "The Builder."

TEMPORARY ASSISTANCE rendered to ARCHITECTS, BUILDERS, &c. Preparing, tracing, and copying designs, working drawings, and specifications, measuring up work, taking out quantities, preparing estimates, &c.; accustomed to Gothic and other extensive works. Terms moderate.—Address, A. 15, Sloane-terrace, Chelsea.

TO ARCHITECTS.

THE Advertiser, who has been engaged for upwards of twelve years in getting out designs and working drawings, and who has a thorough knowledge of building construction, will shortly be open to an ENGAGEMENT. German Speaks French. First-class references.—Address, 636, Office of "The Builder."

REQUIRED, a SITUATION as AGENT or CLERK of WORKS on an Estate, or as MANAGER with a Builder, with a view to partnership or succeeding to the business. Accustomed to drawing, estimating, superintending workmen, builders' accounts, &c. Thoroughly competent, energetic, and steady. Unexceptionable references.—Address, F. B. Post-office, Manchester.

TO BUILDERS AND OTHERS.

JOINER'S WORK WANTED, by the PIECE. Town or country. Well up in stairs and handrails, circular work, sashes, frames, &c. Can work from plans. Labour only.—Address, ALPHA, 236, Portobello-road, Notting-hill, London.

TO BUILDERS, CONTRACTORS, ARCHITECTS, AND SURVEYORS.

GENERAL FOREMAN or CLERK of WORKS.—A Person of several years' experience, requires a SITUATION. Unexceptionable references and testimonials.—Address, X. Y. 150, Great Portland-street, W.

TO CARPENTERS, &c.

EMPLOYMENT WANTED, by a Married Man. Used to general repairs. Wages moderate. Country preferred.—Address, A. B. 18, Buckingham-street, Strand.

EMPLOYMENT WANTED, by a Joiner's Machine Hand, to WORK GENERAL JOINER, trying up moulding machines, or saw-bench.—Address, W. P. 21, Allen-street, Westminster-road, Lambeth, S.

TO CARPENTERS.

EMPLOYMENT WANTED, by a Young Man, aged 20, in a JOINER'S SHOP, at the Bench. Can keep books, if required. London preferred.—C. W. J. 18, Elder-street, Norton Folgate, N.E.

BELL-HANGER and GAS-FITTER.—A good mechanic WANTS a JOB (constant or otherwise).—J. E. 2, Handsworth Cottages, Hamilton-road, Lower Norwood.

TO BUILDERS AND DECORATORS.

AN experienced London GRAINER is desirous of meeting with a SITUATION or JOB. Can be well recommended and specimens of work seen. Jobs promptly attended in town or country.—Address, 1, Alfred Cottage, Upper Richmond-road, Putney. From Marylebone-road.

TO BUILDERS AND OTHERS.

A YOUNG MAN, aged 19, wishes for a SITUATION as IMPROVER. Three years' experience.—Address, G. L. 3A, Cuthbert-street, Paddington.

TO WRITERS, &c.

A YOUNG MAN, competent to write Notice Boards, disengaged after 4.30 p.m. is anxious to obtain EMPLOYMENT, at very moderate terms.—Apply, W. 151, Holloway-road, N.

AN ARCHITECT, of considerable experience, both in executing his own designs and those of others, is desirous of obtaining EMPLOYMENT, either at his own Office, or at that of another Architect. Terms for a Partnership might be arranged. First-class reference.—Address, Right Angle, Bell's Library, Alexander-street, Westbourne Park, W.

TO ARCHITECTS AND SURVEYORS.

A GENTLEMAN who has had many years' practical experience in the above professions, at home and abroad, is desirous of obtaining an ENGAGEMENT.—Address, X. Z. No. 27, Grosvenor Mansions, Victoria-street, S.W.

TO BUILDERS, PLUMBERS, &c.

AN experienced PLUMBER wishes to meet with a SITUATION or JOB. Is well versed in gasfitting and circulating hot-water work. References given.—Address, PLUMBER, 31, Parker-street, Kingsland-road, N.E.

A FRENCH GENTLEMAN, pupil of an eminent architect, wishes to enter an Architect's office. Moderate salary.—Address, L. A. care of A. Maurice, 13, Tavistock-row, Covent-garden.

TO BUILDERS AND SURVEYORS.

AS CLERK.—WANTED, by a Young Man, a RE-ENGAGEMENT. Thorough knowledge of the whole routine, book-keeping, prime cost, making out accounts, estimating, &c. Can bill up dimensions with accuracy and rapidity. Ten years' references. Terms moderate.—Address, A. B. 10, Hunter-street, Brunswick-square, W.C.

TO ARCHITECTS AND CONTRACTORS.

A THOROUGHLY efficient ASSISTANT, of eighteen years' practical experience, desires a RE-ENGAGEMENT. Highly recommended. Moderate salary.—Address, 598, Office of "The Builder."

AS BUILDERS' ASSISTANT.—Can take out quantities and estimate. Is a draughtsman, and understands the routine of an Office. Would prefer an ENGAGEMENT with an Architect as JUNIOR.—Address to ALPHA, care of Mr. Radford, 146, Fleet-street, E.C.

TO BUILDERS.

A THOROUGHLY competent CLERK is desirous of meeting with EMPLOYMENT.—Address, 612, Office of "The Builder."

TO BUILDERS AND PLUMBERS.

A GOOD PLUMBER is in WANT of a JOB, or a SITUATION. Well up in every branch of the trade. Would fill up his time painting and glazing. Aged 39. Town or country. Good references.—Address, 654, Office of "The Builder."

TO BUILDERS, GENTLEMEN, AND OTHERS.

A LONDON practical FOREMAN, who has just completed extensive villas in the country, wishes for a RE-ENGAGEMENT, to Take Charge of Works in Town or country. Good references.—Address, J. B. 13, Gloucester-terrace, Beckenham, Kent.

TO MASTER WRITERS AND GRAINERS.

A YOUNG MAN, aged 21, wishes for EMPLOYMENT as an IMPROVER in the above lines. Is a fair hand, and perfectly steady.—Address, J. M. care of Mr. Wills, 146, Walworth-road, Brixton.

The Builder.

VOL. XXVIII.—No. 1424.

American Professional Papers.*

WELVE years have now elapsed since the architectural profession in America gathered itself together, and founded an Institute of Architects. This raising of the standard has placed the profession upon a legitimate basis; not only bonding together and making it a tangible reliable fact before the public, but creating for it head-quarters, an agreeable fellowship among its members, the possibility of action in unison, and pervading it with that subtle quality of cohesion, combination, and competition, known as *esprit de corps*. The last three years of the period in which the Institute has existed have been the most fruitful, whence we may assume that those to come will be still more so. The progress made is most recognisable in the fact of the inauguration of annual conventions of one or two days' duration, in which the president gives an address, the reports of the local chapters are read, and papers on various professional subjects are read and discussed. As would be observed in the *Builder* of the 23rd ult., the Institute has issued a schedule of charges, endorsing as a starting-point the time-honoured fee of 5 per cent. usual on this side of the Atlantic, and some of the details in common with the schedule of the British Institute. It has also published the proceedings of the three conventions that have now been held, and the papers read on these occasions. But it is not by the work it has accomplished itself so much as by that it has called forth in other directions that we must measure the amount of usefulness it has performed. Since these annual conventions have been arranged, a number of professional journals, altogether independent of the Institute and of each other, have appeared upon the face of American literature. Directly architecture came to the front, in a word, sympathisers and supporters appeared on her right hand and on her left; and we must look upon the position so assumed and thus ensured as one of great promise.

We have received the proceedings of the third annual convention of the American Institute of Architects, and the current numbers of most of the journals to which we have alluded. They show us the great, busy, work-a-day America, with its tall warehouse-looking dwellings and tramway-laid streets of bold-faced, self-asserting stores, in every respect indicative of the fact that trade and traffic are the main considerations taken into account in their eager, flaunting, pushing continuity; and they show us, too, that other America, bountiful as boundless, that had rest and release in it for troubled spirits in the days of the Stuarts, the Old Colony days, the land of Miles Standish and John Alden, that our forefathers spoke of as "our plantations in America." This last phase is most apparent in the paper read by the president of the Institute, Mr. Richard Upjohn, on "The Colonial Architecture of New York and the New England States." He tells us that only a few of the colonial buildings remain, but they are striking evidences of the taste and skill of the period to which they belong, and identical in style with contemporary buildings in Holland and England. If the Institute should be able by its influence to preserve these interesting fabrics from demolition, it will be doing a good work. As pictures in the history of America, they are absolutely priceless; nevertheless, their number is gradually getting smaller and smaller. In the face of the strong feeling there is in our own country in favour of the conservation of our ancient buildings, it is scarcely to be credited that this comparatively new country ruthlessly razes to the ground the architectural links that connect it with the Old World. Even some of the old churches of the early colonists have been destroyed: relics we should have deemed as precious as Saxon remains are in this country. Their ancient features, with their refinement of quaint simplicity, associated with so much that is worthy in the history of the sons of Japhet, have been considered as nought; as no more, in fine, than the rosemary odour, "commingled with pansies," "the beautiful Puritan pansies," that Edgar Allan Poe would have found lingering in them. The North Dutch Church, erected by the Dutch colonists in Fulton-street, was destroyed last year; and the South Dutch Church, now used as a post-office, is doomed. Mr. Upjohn remarks that St. Paul's, one of the most prominent landmarks in the city of New York, still stands in almost pristine vigour. We trust that it may long remain to do so, for a companion edifice, Old Trinity Church, has been already thrice rebuilt. All the domestic buildings of the primitive days of this city are either utterly lost or so defaced as to be of little interest; but Brooklyn is more fortunate in still retaining some of the picturesque homes built by the earnest, stout-hearted, faithful colonists. Mr. Upjohn records, and we are glad to pass on the word, that there is an old house in South Brooklyn, on Fifth-avenue, near Greenwood Cemetery, with the date 1699, in wrought-iron figures forming the anchor heads, on the outside. He says,—"It is a brick building, built, as was usual at that time, of bricks brought from Holland, and laid up with mortar probably made of shell lime. It is remarkable that the gable walls of this house are without coping, but are finished with bricks standing angle-wise, and forming the zigzag lines still seen on the gables of houses in Holland and Belgium; yet the mortar joints, exposed to the weather 200 years, are still intact." The period of this erection will be better realised if we remind our readers that it was only thirty years after Charles II., by the grace of God, King of England, Scotland, France, greeting, granted to his "dear and entirely beloved cousin, Prince Rupert," and others, the sole trade and commerce of Hudson's Bay. Architecture and the art of building have not arrived at so much perfection in America that the loss of such an example can be afforded; and we must add, again, the Institute will advance its interests by protecting from demolition the Old-World homes that were transplanted with so much effort and care. Boston, Cambridge, Newport, New London, and Connecticut also retain attractive examples of genuine domestic architecture, of which, Mr. Upjohn suggests, the members of the academy of design should make careful studies, as they will be buried in oblivion in the course of another century; which prophecy all well-wishers of architecture in America will desire may not be fulfilled. Later buildings are apparently valueless. We quote the president of the Institute as a verification. "The ecclesiastical architecture of the Ante-Revolutionary days, was, in almost every instance, far superior to that of the period subsequent to the Revolution. Then every trace of refinement, of truthful expression and fitness of purpose, was lost sight of. Not a vestige of sacred thought can be discovered in the houses of worship of this period." Besides this interesting catalogue of the Jacobian architectural antiquities of America, there were four other papers read at the convention, besides many documents relating to the management. Mr. A. Cluss read a technical paper "On the Theory, Functions, and Incidental Uses of Chimneys," in which he worked out the intimate relation of science to architecture; and Mr. William Ware read a paper "On the Relations of Science and Art in Architectural Study," in which he discountenanced the too literal cultivation of this intimacy, and urged that an artistic spirit rather than a scientific education should be looked upon as the chief instrument in the hands of a student; the conflicting opinions being, to some extent, reconciled in the discussion that followed, by Mr. Peterson, who drew from them the conclusion that the proper method of education lay half-way between the two opposites. The third paper was by Mr. Hatfield, "On the Elementary Training of the Architect," in which he fancifully and skilfully treated his subject, claiming for architects that they are workmen upon the palace of architecture; and the fourth, or closing address, was a paper upon "Professional Guilds," by Mr. Godkin. This last-mentioned gentleman remarked that probably there has never been a time or place in which man did not feel the loneliness of standing alone, and did not endeavour to associate himself with others of common tastes. The early Christian brotherhoods and the guilds of the Middle Ages offered this association, when society otherwise presented little more than a joyless existence. Professional guilds were the result of the same yearning for fellowship, though founded upon a different basis; the trade guilds making most of the comfort and condition of the workman; the professional guilds considering of foremost consequence the skill, fidelity, and uprightness of its members. And when the French revolution brought to the surface of things a re-action against associations, and a feeling in favour of individualism, it broke through much salutary discipline. The formation of professional associations similar to that of the Institute, he continued, would be of great service in the concentration of opinion in aid of morality, and in the growth of the strongest of the social forces, "that loyalty of man to man, that proud concern for the worth and repute of all, and of all for the worth and repute of each," the French only have found a name for, in *esprit de corps*. With such hopeful strains closed the convention; the proceedings generally showing complete culture, a high appreciation and feeling for the wonderful past, as well as great and good aims for the future.

The journals, collectively, show us America busy, bustling, and boasting of "whipping creation." But amid the clank of cog-wheels and clang of steam-hammers, the rush, and wear and tear of countless industries carried on to their, apparently, uttermost limits; the building of new towns, and increase of old cities, we come upon facts that touch our most cordial sympa-

* Proceedings of the Third Annual Convention of the American Institute of Architects, held in New York, November, 1869. Western & Co., New York.

The Architectural Review and American Builder's Journal. By Samuel Sloan. Claxton, Remsen, & Haffelfinger, Philadelphia. Vol. II., Nos. 9 and 10. March and April, 1870.

The American Builder: a Journal of Art. Charles D. Lakey, Chicago. Vol. II., No. 3. March, 1870.

The Manufacturer and Builder. Western & Co., New York. Vol. II., No. 4. April, 1870.

The Technologist: especially devoted to Engineering, Manufacturing, and Building. The Industrial Publication Company, Broadway, New York. Vol I., No. 2. March, 1870.

thics, and evoke our warmest admiration. Looking first into the *Architectural Review*, which is a large octavo, in a pale dove-coloured paper cover, with several illustrations of buildings, we read, "There is no reason for despondency among architects generally. There is unlimited capital in the country ready for investment, and there is likewise a growing comprehension of the greatness which vast, chaste, and elegant construction confers upon a rising nation like this of ours." And the writer proceeds to state that philanthropy, religion, education, and trade will all avail themselves of the services of architects as among the best means to further their own interests. Again we read, "Where there was one architect some ten years ago there are now fifty, and in the Southern States alone, where, a few years back, the designs required for a building were supplied by the eastern and northern cities, local architects are to be found in every town of ten thousand inhabitants. . . The community at large are more interested in the progress of architecture than is supposed." A similar cheerful tone pervades both the numbers of the review before us; which, for the rest, are filled with word of American work, mixed with papers upon European subjects, illustrations of both novelties and antiquities, with here and there an extract from European publications, including the *Builder*. Now, we are told of the building of a new town, consisting exclusively of gentlemen's residences, with from one to two acres of land attached to each, at Bryn Mawr, an extension of the small Welsh settlement that originally gave name to the romantic and hilly location; which new town is said to be sure to become the resort of the wealth and fashion of Philadelphia, and furnish employment to architects, builders, and horticulturists for the next few years; and on another page we hear of the burning of a great tract of business premises in the centre of the town of Cheyenne, with the erection of twelve new houses on the site of the conflagration before the smoke of it had cleared away! Among local subjects is a pleasant paper on Philadelphia fifty years since, which describes several of the old brick houses built on marble basements, which were standing at that date, but which have since been removed; and the writer complains that the brown stone houses built upon their sites are not so hospitable-looking as those old mansions were, being tawdry, and exhibiting but little difference from the store fronts of the business streets. He says, deploringly, that the same style of front and ornamentation obtains for both stores and dwellings from the Atlantic to the Rocky Mountains, and from the Kennebec to Mason and Dixon's line. Altogether, throughout the review we perceive this feeling that better things can be done, and must be done, than Transatlantic taste has accomplished in these latter days. Another writer, we must mention, speaks in high praise of additions to West Philadelphia, consisting of 138 large dwellings, thirty-three of which are of white marble, and all of which have been erected by one builder in the space of eighteen months. We must congratulate Mr. Samuel Sloan, the editor, upon the wide field and favourable season before him.

The *American Builder* is a quarto, in a faint salmon-coloured cover, rather less quietly and unostentatiously professional than the *Review*; and with many more advertisements relating to technical objects in it, thereby carrying out the quoted opinion of a Boston contemporary, that it is "an indispensable exchange." The number before us has four illustrations; the first being the new Drake Block of Four-storied Houses in Chicago, with Stores on the pavement line below them; a Wood Villa, built for Colonel Nichols, at Maywood, which has all the appearance of being made of cast iron, in the utter absence of the characteristic features that work in timber should present, so charmingly illustrated, for instance, in the Castle of Coburg, shown in our columns on the 23rd ult.; a design for a small Church, in timber, with a Norwegian treatment, by the Messrs. Upjohn; and a French-looking design for a Villa, with a verandah and so-called "truncated roof." The letter-press commences with contributed papers, the first being from Paris, and concerning Parisian workmen; and the others philippics against shams and in favour of consistency. Then follow a chapter on science, chiefly astronomical; communications to the editor; miscellaneous matter,—so miscellaneous, indeed, that one of the items, stating the trigonometrical survey of England and Wales is completed, we perceive is given twice over; a column called the What-not; another as eccentrically called the Editor's After-dinner Hour; and then notices of new publications, including the proceedings of the Convention. It is among the news items in the Editor's After-dinner Hour that we come most in contact with the speculative, rapid, and incessant industry of our cousins, and their eager acceptation of novelties. One line tells that 26,565 new houses have been built in Iowa since 1867; another, that the Charleston Theatre was built in forty days; a third, that a disputed house has been sawed in two, and the most obstinate claimant continues to reside in his half; another, that the largest bed of slate in the world has been found on the St. Louis river; 15,000 tons of steel rails will be laid this year on the Grand Trunk Railroad; 500 miles of snow-sheds erected along the Union Pacific Railroad; a submarine cable is to be laid along the Pacific coast of South America; the proposed Art Museum in New York is to be a success; houses can be covered with the new paper building material for a few dollars each; and so on. These good big facts and wholesale quantities make the foreign news items appear of the smallest and weakest description. Even the trigonometrical survey so complimentarily mentioned, appears a dwarfish undertaking compared to the speed, the space, the scale, and the figures of those on the other side of the Atlantic. After noticing a Boston proposition to cut a tunnel 1,900 ft. long through the most frequented portions of that city in one column, the progress of the Sutro tunnel, mentioned in another as now bored to a length of 715 ft., appears puny. After reading, at the top of a page, that the bridge just completed over the Ohio, at Louisville, is a mile long, exclusive of approaches, the bridge to be built at Maldon, Essex, mentioned lower down, must be looked upon as a toy. After reading, too, of a new locomotive, constructed in Taunton, Mass., to run backwards and forwards alike, being double in all its parts, with the engineer's standing-place in the centre, a wire tramway, five miles long, described as newly laid upon the green downs of Brighton, appears a trifle of the order of retrogression. And so on, from column to column. Everywhere we are impressed with the conviction that there are still giants upon the earth, as great as any that have gone before.

When we take up the maize-covered journal, entitled, *The Manufacturer and Builder*, we expect to step nearer to the workshop, and are accordingly not surprised to be confronted on the first page with diagrams showing the latest improvements in ice-machines, for the manufacture of ice, with the assistance of a steam-engine for driving the apparatus. This information, suggestive of inconvenience from heat, is shortly followed by an article on laying bricks and stone in freezing weather, suggesting similar discomfort from extremely cold weather. The writer of this last declares that a vast amount of work is done that is frozen up tight in less than twelve hours after the mortar is used, and that there are scores of brick houses erected in Brooklyn and New York, with scarcely strength to stand from this cause. "And," he continues, "we have in mind several instances in which portions of the walls were crushed to such an extent, that the entire structures had to be taken down to the very foundation, simply because the walls were built with mortar that was allowed to freeze soon after laying the bricks." None too soon, therefore, does the *Manufacturer and Builder* speak on this head. European applications and discoveries are carefully noted, and in one instance, we perceive, a translation is given of a German paper "On the Application of Cements for Submarine Constructions." Photography, dialling, weaving, the supposed loss of power by the crank motion, are touched upon among other subjects equally disconnected; and there are various articles relating to buildings, in most of which can be traced a manufacturing idea of introducing iron in every capacity into structures of all sorts. One correspondent, described as a distingnished architect, suggests that galvanised iron should be used for mouldings along house-fronts, chimney-tops, mantelpieces, chimney-flues, &c., "so that the whole fireplace, from the fire-grate upwards, including everything to the chimney-top, could be bought of any required size to be set in the house to be built, making a set of complete outfits from floor to roof." Further on, there is an illustration of an ironclad house, coated with plates of iron like an ironclad ship, built in One Hundred and Seventeenth-street, New York, which is the first instance where the plan has been adopted for a first-class dwelling. The benefit supposed to accrue from the adoption of this principle is durability combined with decrease of cost; because the structure behind the sheets of iron can be finished in a much rougher manner, and made of commoner materials, than it would need to be if exposed. This chief merit is thus summed up. "An elegant front may now be ordered in New York, boxed up and sent to any part of the world. Any builder can then connect it with the outside of the coarsest walls, while they are in process of erection, and in this manner a residence of metropolitan aspect may be constructed almost anywhere;"—of too metropolitan an aspect, we should suspect; corresponding with the rectangularity of the buildings also spoken of that are erected in twelve working hours complete. These last-mentioned ready-made houses formed the chief part of the material carried westward on the Pacific railroad, the *Manufacturer and Builder* tells us, and were transported in bundles of twelve doors, twelve sashes, &c. A contractor, according to "an exchange" quoted, is now sending out seven meeting-houses, of this type, for the Presbyterians along this line of rail. Thrown in, gracefully, amidst suggestions of such angularities, is a chapter, with illustrations, taken from the American Woman's Home, showing how unpretending homes may be made beautiful with chromo-lithographs in home-made frames, and flowers in home-made stands and cases. And the moss and ferns and swamp grasses scent the page, and cause us to lay down the journal approvingly.

A fourth journal, the *Technologist*, is in still earlier youth than the rest. We have the March number before us, which is but the second of the first volume. Engineering holds the first place in it, manufacturing the second, and building the third. Like that just described, it engrafts upon the technicalities of these pursuits subjects of a somewhat lighter nature, that are likely to enlarge its sphere of usefulness. Thus, though the æsthetics of construction, comparative tests, technological education, Boulay's new battery, and kerosene explosions are fully discussed, we find the girl of the period, the books we read, and periodicals for the young, described for the reader's recreation. In a notice of the Winter Exhibition of the Society of Painters in Water-colours, we are struck with the choice of subjects made by the artists. Their own mountains, and falls, and prairies and "pictured rocks" are passed over; not a scene from Washington Irving, "Evangeline," "Hiawatha," or Walt Whitman is given; but Haddon Hall, the Scottish Highlands, Stratford-upon-Avon, a Surrey Bye-way, and Westminster Abbey, have found fresh pencils and patrons. The election of a new president of our Institution of Engineers, with his inauguratory address, occupies a much more prominent place than an account of a meeting of the American Society of Civil Engineers. When statistics relating to the healthiness of various occupations are given, it is our own registrar-general who furnishes them; when roads are discussed, Mr. Bridges Adams is cited as an authority; and when drainage is urged upon New York, the system adopted in Paris is proclaimed. In a word, the most friendly appreciation of all things English and French, and kindly competition with them into the bargain, are apparent upon every page. Nevertheless, there are novelties of American invention, for which full credit must be given. And we feel, as we close the last of these professional papers, that have an aspect that is neither English nor French, yet like unto both, that they will be the means of very satisfactory ends.

Institution of Surveyors.—At the ordinary general meeting held on May 9th, a discussion took place on the paper by Mr. E. Ryde, entitled "Parochial Assessments," and was taken part in by many members. The following candidates were balloted for, and declared duly elected:—As member—Stephen William Williams, Rhayader, Radnorshire. As associate—Robert Charles Catling, Needham Hall, Elm, Cambridgeshire. The next meeting will be held on Monday evening, May 23rd, when a paper will be read by Mr. R. Hall (Vice-President), entitled "Notes on the Inclosure Acts, and their Results." The chair to be taken at eight o'clock. The annual general meeting of the Institution, to receive the report of the council, and to elect the officers for the ensuing year, will be held on Monday, May 30th, at three o'clock.

BRIGANDAGE AND ART.

Is this a fit title for an article in a journal devoted to science and art? Is brigandage a fit subject for discussion or dissertation in these pages? Can we, as practical men and artists, find a legitimate theme for consideration in the nefarious doings of outlaws in distant countries? Can there be any connexion, even the most remote, between brigandage and art? Can the deeds of such miscreants in any way concern us or have relation to our professional studies?

In answer to the many who will ask these questions, we reply to them all affirmatively. In the first place, we wish to record, in common with our fellow journalists, our detestation of the late massacre in Greece. Secondly, as practical men we would endeavour, from our own experience, to suggest a remedy for the future. Thirdly, as long as the ruins of the finest temples are frequented by robbers, so long will the study of Greek art from ancient remains be pursued under disquieting conditions.

We desire to put on record our abhorrence of the late evil deeds in Greece, as men, especially as Englishmen, and also as artists. As men, we are affected at the cold-blooded murder of defenceless travellers; as Englishmen, we are indignant that that "distorted thing called the kingdom of Greece," which we have spent so much blood and money to establish, should harbour semi-political bravos, who shed the blood of some of the gentlest and best amongst us with deliberate malice; as artists, we are touched, because these late events bring prominently before us the unfortunate fact, that all those countries which possess the finest works of antiquity, and have, therefore, the greatest attraction for the archæologist and architect, and which present the most picturesque and the most richly-coloured scenery, and are therefore yearned after by the painter, are haunted by brigands of the worst class. Magna Græcia, Sicily, Greece, and Ionia are infested by gangs of robbers, who will shoot you down from their ambuscades, or drag you after them for months among the mountains, to suffer every privation, until your friends can communicate with them and furnish them with some thousands of pounds as your ransom. In these countries no sketching excursion can be undertaken, no scientific expedition carried on, without the trouble and expense of guards, who are not always to be relied upon for protection. It surely, then, concerns us, as artists and archæologists, to look upon this matter of brigandage with regard to the interests of art; for all amateurs of architecture and picturesque scenery would like to have the privilege of visiting the ruined fanes of old without the chance of being popped at by a brigand from behind a column, or of being carried off into the mountains, and having their noses or ears lopped off and sent in letters to their friends, by way of expediting the business of ransoming.

This state of things has lasted for a long period. The traveller in search of the remains of Greek art is everywhere checkmated by brigands. When at Naples, the adventures of Mr. Moens are depicted to him by kind friends, to prevent him from risking his life for a peep at Pæstum. In Sicily he hesitates about making an overland journey to Agrigentum and Segeste, on account of his landlord's report of the state of the country; and even when he makes up his mind to drive to Monreale, the portly host of the Trinacria, standing on his threshold, bids him a most solemn adieu as though for the last time, and washes his hands of the departing guest, after giving him all necessary warning.

It is true that the Italian Government has lately stated that there is only one band of banditti in Sicily, and that this consists of *only* forty-five members; and we remember, upon making inquiries from the commandant at Reggio, some few years ago, as to the state of brigandage in his district, that he told us that it did not contain a single bandit; but did not the Greek Ministers, or their deputies, assure the unfortunate travellers that there was not a brigand in the neighbourhood, though there were then thirty of them in ambush within ten miles of them at the time they spoke?

When the traveller going further eastward lands at the Pirœus, he finds that the road to Athens, of only six miles in length, is patrolled by guards; that he cannot stroll a mile out of the town without danger; and that a journey to Rhamnus or Corinth would be madness.

As long as we can remember Greece, brigandage has been its chronic complaint. At the time of our first visit to Athens, during the Crimean War, and though there were two regiments,—one English and the other French,—encamped at the Pirœus for the purpose of maintaining order, about a hundred peasants and farmers were seized by Klephts, stripped of all they had, and locked up in a church one Sunday during our stay. And it was also reported,—we do not know with what degree of truth,—that some officers of these regiments were kidnapped when out for a stroll. On the occasion of our second visit, we heard that a party who had landed near the Isthmus of Corinth from an English nobleman's yacht (Lord Selkirk's, we believe), had narrowly escaped being carried off. Our fourth visit was just after the release of Lord Harvey and party (who were captured in 1867 by a chief whose death is recorded in a telegram just come to hand). About this time Kitzo's band carried off the Minister of Finance, and murdered a priest who was about to betray them; subsequently various landed proprietors were carried off and ransomed. Now the culminating point of infamy has been reached; and we sincerely hope, for the sake of humanity and of art, that England, either alone or in conjunction with other European countries, will stamp out Greek brigandage for ever.

In all countries there are land sharks who prey upon the weak and defenceless; such as burglars, garotters, footpads, and sharpers of all kinds, until lately known amongst us by the appropriate name of "Greeks," either after the crafty Ulysses and his compatriots, or after those supposed to be his descendants, but who are in truth a mongrel race with much Italian and Turkish blood in their veins. In half-civilised countries where the governing powers are weak, or the administration corrupt, these miscreants assume a bolder character, and live at open war with society, especially with those travellers who seek the hospitality of their country. But in most regions they do not proceed to the extent of wantonly taking away life. The Bedouin, who strips you to the skin and leaves you to find your way to a neighbouring town clothed only in a hat and shirt-collar, is an angel compared to the Klepht, who shoots you down without compunction because you are footsore and cannot clamber over jagged rocks as quickly as he wishes. Yet the Klepht has received some education; can read and write, goes to church, is on visiting terms with people who have held office, and probably banks at the same house that you do. He takes a keen interest in politics, and is delighted if his exploits lead to the dismissal of the minister, and give his friends of the opposition a chance of place. We in peaceable England cannot well realise such a state of things, except by supposing that when Disraeli was in power Bright's bands would take to the road, and be heard of somewhere near Blackheath; and that when Gladstone ousted him, Newdegate would establish himself in the ruins of some old monastery, and sally forth to seize foreigners in order to bring the Pope to his terms.

Greece has been protected long enough from the attacks of the Turks, let the three Great Powers now protect her from herself. Brigandage is a gangrene which affects the whole society, proceeding from a savagery innate in the people. The "merchant prince," who gave his thousands to propagate rebellion in Crete, though by a fortunate turn of the wheel, he has been enabled to cast his "fustanella," and come to live in Hyde Park, would probably have made up a purse upon the mountains, if his lines had not been cast in pleasant places. We are speaking now only of the Athenian Greek. The rayah is in many points his superior, especially in Asiatic Turkey and the Turkish islands.

We have supposed a traveller searching for remains of Greek art at Naples, Palermo, and Athens being checkmated at all these places. He then proceeds to Ionia, and lands at Smyrna. If he land in the winter time he may travel without fear of molestation, and visit Ephesus, Miletus, Magnesia, and Tralles, without meeting a hostile person; but if he go in spring, summer, or autumn, he will hear of robbers at every stage. Guards, often unreliable, will be forced upon him, and he will be fortunate if he return with a whole skin and a full pocket. There is a strip of mountainous country, extending about ninety miles south of the Gulf of Smyrna, as far as the mouth of the Meander, containing some of the most important ancient sites, and inhabited chiefly by Greeks, which is annually infested by Greek brigands from the islands. They land in bodies of twenty or thirty, headed by an experienced leader, who is well acquainted with the mountain paths. They subsist on provisions supplied them by the villagers (who sympathise with them, as they consider their operations semi-political), with an occasional sheep stolen from the flocks of the Eurooks in the plains. From their mountain eyrie they watch the unwary traveller through their glasses, and pounce down upon him when they think there is an opportunity for a favourable *coup*. Their season begins in April, and lasts till November. They keep the settled and peaceably disposed inhabitants in a constant fever of alarm. The Smyrna merchants who have country houses at Boujah and Bournabat buckle on their revolvers, clean up their rifles, and are no longer content to jog to town singly on their slow-paced donkeys, but travel in parties and mount on fleeter steeds. Ladies no longer venture to take walks in the country, and the owners of *chiftliks* confine their promenades to their farmyards, or, if they venture beyond them, go attended by a whole posse of guards. It was from a chiflik that Mr. Van Lennep, the nephew of the Dutch Consul in Smyrna, was carried off in the spring of 1868, and only released on the payment of some 1,500*l*. This periodical invasion of barbarians has lasted as long as we have known Smyrna; that is to say, for fifteen or sixteen years. Dr. Macgraith, a resident, was taken off for about a fortnight, and he has related to us his experiences with the rascals, which were, to say the least of them, painful. The Turkish police are, on the whole, more active than the Greek soldiers. The band which took off young Van Lennep was happily surprised while at breakfast by a few cavasses, headed by the Mudir of Sokia; three of them were shot, but the others escaped.

Now all this annual panic might be prevented and security guaranteed by a very simple measure—viz., by stationing a *cordon* of a hundred men, armed with breech-loaders and revolvers, in small block-houses along the coast, ten in each, for the distance of ninety or a hundred miles. The posts should communicate with one another by means of telegraphic wires, so that the appearance of a suspicious-looking caique in the offing, or the landing of men of doubtful character might be signalled along the whole line. The small expense of the maintenance of these would be balanced by the relief that would be given to merchants and to travellers. The Turkish Government would naturally object to the introduction of foreign troops for this purpose, but a strong pressure put upon the Porte at this juncture would make it open to this improved police. The force should be paid by the Turkish Government, composed, as far as possible, of Europeans, and officered by them, and should not be answerable to local authorities, but only to head-quarters, at Stamboul. If some measure like this be not adopted, the brigands hunted out of Greece will crowd into Ionia, and render it less secure than before.

For the future interest of art and archæology, may brigandage be put down by an armed occupation of Greece, and by the establishment of a strong coastguard along the shore of Ionia, which is the only part of the Turkish Empire regularly frequented by Greek brigands.

THE ARCHITECTURAL EXHIBITION.

RETURNING to the Collection in Conduit-street,* Mr. W. Lee shows in a large and well-executed drawing the "Interior View of Large Hall," in one of the premiated designs for the Manchester Town-hall: a very large proportion of ornament is so equally distributed as to have a quieter and less tawdry effect than is sometimes exhibited in rooms where there is really a less amount of ornament not so impartially distributed. The exterior views (93 and 94) are even better executed than the interior, but, for external work, somewhat over-rich and wanting in repose; the eye can rest nowhere. The style is Decorated, but with nothing to remark upon in the treatment. Of a like kind of merit, though shown in a totally different style of drawing, are the designs for the "Plymouth Guildhall and Public Offices," by Messrs. Fogerty & Drew (161, 162, 163). This is a well-intended design as to plan and general conception. The Guildhall and Offices are placed at opposite sides of a central court, an open loggia connecting the two blocks, and with a centre gateway, runs along a third side: the whole is well placed and considered for general effect and balance of composition,

* See p. 382, *ante*.

but in detail and style it belongs to a class of designs the merit of which appears to us to consist mainly in a happily-acquired manner of using and combining Gothic features and details, without any great amount of originality. A contrast in this respect is Mr. C. F. Hayward's design for the Plymouth Guildhall (164—167), though perhaps wanting in dignity, and certainly not the design to win the hearts of a committee. This is a quiet and unpretentious Gothic building, shown in very good ink etchings, with a long two-storied front of a late type of Gothic, with square-headed mullioned windows on the lower story, and pointed windows under square labels above. The small and sketchy perspective view shows a fairly harmonious grouping, totally without trickery or pretension; though a more elevated centre feature would have improved the principal elevation, and, in matters of detail, the finials are somewhat clumsy and heavy, and in the arcaded porch the arrangement by which a pier comes in the centre, instead of an opening, is unhappy. But we commend these drawings to the attention of students, rather than the more striking and seductive towered productions in the shape of town-halls, which first attract the eye. Messrs. Fogerty & Drew's design for "Municipal Buildings, Belfast," shows a clever planning of a triangular site, especially in the manner in which the large semicircular entrance-steps and colonnade are got in: the plan is worth study, and the design, though of a common-place Roman type, with engaged columns and a balustrade supporting some "sweet things in pots," is not without merit in general design and in the contrast of the large and small cupolas, the latter of which is very elegant. Of course, gentlemen who are willing to work in such totally opposite styles as this and that of their Guildhall design to suit customers, cannot expect to succeed well in both, and may very likely end by succeeding in neither, artistically at all events. Mr. R. Miller's "Design for Government Buildings" (105) is an instance of the fact that very large drawings do not make (necessarily) very grand designs. The general treatment is of a very ordinary Gothic type, and the buttresses round the dome, a somewhat novel feature, have been designed without proper consideration as to their effect upon the outline of the principal feature, which in effect they almost rob of its domical form, and reduce to the aspect of something like a pyramid.

Among designs in the class of domestic architecture, one of the first which we notice in going round the Architectural Exhibition room is a very small drawing, by Mr. Edis, of a "Half-timbered House in course of erection at Bexley, Kent" (19). The employment, in general, of this not very durable style of architecture, can scarcely be recommended: however, both on practical and artistic grounds, it is much more in place on such a country site as is here indicated than in the streets of a town; and no one can deny that its architect has made out of this little house, with its picturesque outline of roof and corbelled out upper story, a pleasing design of the class. The same architect exhibits the south-east view of a mansion in course of erection, the north-east view of which is exhibited in the Academy (753), and was favourably noticed in our review of that collection; the present drawing (62) more than confirming our previous good opinion of the design. A more ambitious and, from its size, important work, is "Glenbegh Towers, in course of erection near Killarney" (56), by Messrs. E. W. Godwin & Crisp, a regular piece of feudalism, whose frowning bastions and parapets sort ill with our associations with Killarney, though, perhaps, they may be deemed only too suitable to the present and recent anxieties of dwellers in the Green Island. The look of the place, with its square windows in a blank wall, is not inviting, for all the good colouring of the drawing. Mr. Teulon's "Additions to Branch Hill Lodge (66) shows a quietly picturesque red-brick house, of originality of outline and grouping, and a good suggestion as to the treatment of a brick garden-wall, which, from about the centre of its height, is battered up to a thinner open brick balustrade at the top, with solid piers at intervals. The elevations and plans of "Cowhill House, Dumfrieshire" (100, 101, 102), by Messrs. Carter & Lyon, show of course a mansion with that profusion of circular corbelled angle-turrets and "corbie-step" gables which we should presume are imposed upon architects by their Scottish clients, who appear to think there would be "nae luck about the house" without these architectural features. A certain picturesqueness of outline is inseparable from this style of treatment; and in this, as in other respects, the mansion in question does not differ in general design from a great many other Scottish mansions; save that in the mullioned windows there is more look of the refinement of southern domestic architecture than is usual in northern houses. We may comment, by the way, on the great predominance of the square mullioned window in the domestic as well as in other designs in the Exhibition, in situations where, some years ago, architects who used a decorative window at all would have employed tracery. It should seem that the architectural profession are coming to the conclusion of a well-known contemporary novelist, quoted in our columns some time since, that "square mullioned windows afford a greater aggregate of happiness than any other form of window." The plan of Messrs. Carter & Lyons's mansion presents nothing special for remark, except that the principal windows of drawing-room, business-room, and library, all have the same aspect, which, probably, cannot be an equally good one for all of them; but as the architects have not given the points of the compass on their plan, it is to be feared they do not reckon at its proper importance the planning of a house with regard to aspect. Without a north and south point given we cannot undertake to pronounce upon the merit of a dwelling-house plan. Another of these frowning Scottish strongholds is the "Proposed Mansion in Argyllshire" (160), by Mr. Honeyman, with the same distinctive features, corbie-step gables, and a mass of square tower in the rear; it is shown in a rather powerful and effective water-colour drawing, with a strong light thrown on the red-brick walls. Some "Designs for Gate Lodges" (30), by Mr. Young, etched with a free and effective touch, are worth notice as suggestions in picturesque architecture on a small scale. It is curious to notice what a large amount of what may be termed picturesque design finds place on the walls of the exhibition,—design of a class illustrating what would suit the painter in point of varied and irregular outline, rather than that repose, and symmetry, and balance of outline and expression which belong to the best and purest forms of architectural design, properly so called.

Mr. Blomfield's "Whitgift Hospital Middle-Class School," at Croydon (31), is, like his churches, a sound Gothic design well drawn, and with a rather commonplace type of tower, differing in no material respect, in design and expression, from what we should usually suppose to be a church tower; but such a diversity of expression ought surely to exist in buildings for such different objects. Next to this hangs the "Gaiety Restaurant, Strand" (32), by Mr. Phipps, who has probably been hampered by having to assimilate his building to the style of the well-known front of the theatre adjoining: considering this, he has been fairly successful, but the treatment is heavy and unrefined. Mr. J. P. Seddon's "Almshouses, Fulham" (52), is a clever drawing with a disagreeable tone of colour, showing an original, though rather quaint, Gothic design, with figures illustrative of the object of the building in low bas-relief sunk in panels. The panel in the gable end is somewhat awkward in outline, and fits very ill into the irregular space left in the gable, one side of which is half cut off by the line of the adjoining wall. The "Grammar School at Kingston-on-Thames" (54), by Mr. Stallwood, is what we should call a "fidgety" design in red brick (*very* red in the drawing) and stone dressings; and the "Proposed National Hospital for Incurables, Oxford" (61), by Mr. Buckridge, of which we have a view of part of the quadrangle, seems to be a combination of church and cottage architecture,—a cloister or aisle, with elaborate traceried windows, below, and very plain little dormers and square sash-windows above. Mr. Edis shows details (78) of the warehouse front design which is exhibited in the Academy (802), which do not alter our good opinion of the design; but why does he indulge in the absurdity of placing in his section and elevation figures dressed in Mediæval costume? Gothic architects who do this sort of thing ought surely to see that they are militating against their own cause; for what possible excuse can there be for it except as an expression of feeling that the buildings represented in the drawing are unsuited in style to any but Mediæval life and society? Clever architects like Mr. Edis should be above this sort of nonsense. Mr. Goodchild's perspective of "Design submitted in Competition for Queen Elizabeth's Grammar School, Kingston-on-Thames" (85), is a remarkably nice etching, showing a building in a quiet style of domestic Gothic of the fourteenth century character: the bell-turret is not very happy in outline. The "Lincolnshire County Prison," hung next to it (86), by Mr. Peck, at all events looks like a prison, which is, perhaps, the chief architectural merit that such a building can very well exhibit. Mr. Dawson's "Orphan Asylum, Watford" (91), is a bird's-eye view of a large group of buildings arranged around three quadrangles, of the merit of which it is difficult to judge from a drawing of this kind, especially with no plan to give us a key to the motive of the whole. Mr. Peck's "Suffolk County College" (95) is a pleasing design in brick, Tudor Gothic, with some touch of modernism in it. A quiet and picturesque design, too, is Mr. Howell's "Berkshire Lunatic Asylum," which we illustrated some little time since. The "Great Northern Station Hotel, Leeds" (173), recently completed by Messrs. Hadfield & Son, shows a rather powerful and picturesque treatment of this class of building, with its two large square masses above the first floor line, and the deep recess between them; this is certainly something out of the common-place in general treatment, so that we the more regret the unsatisfactory character of some of the details; the trick (for it is nothing else) of placing pointed labels over round window arches, and the paltry character of the balcony railings, which might have been made, as the Parisian architects constantly make them, a really ornamental feature. In "Premises to be erected for Messrs. Brandon" (177), by Messrs. Giles & Biven, we are introduced to a few acres of pilasters, redeemed by a praiseworthy effort to give a little stability to the ground story by heavy granite pilasters between the inevitable sheets of plate glass. Mr. Chatfeild Clarke's "Design for a City Building" (174) is a very ordinary Roman design, with coupled engaged granite columns on the ground floor, and pilasters on the floor over; the window mullions on second and third floors, narrow on the face and with deep reveal, and a projecting bracket at the top, partake far too much of the character proper to a cast-iron standard, a mistake which we have frequently noticed in recent designs for stone buildings. "Design for Entrance-gates, Ballynahinch, Ireland," by Mr. Aitchison, is, at all events, a solid treatment of gate-piers, a feature for which there is something to be done by architects to redeem it from the commonplace; the present design, classical, but with novel treatment of panelling and detail, is so very solid, that the piers would certainly look hopelessly stumpy in perspective, unless, indeed, they have been a little cooked for the elevation. The "New Premises for the East India Railway Company," by Mr. Knightley (182), is a very sensible, plain, street design; Italian, with a good deal of novelty of treatment in detail: the window architraves on the second floor are a little awkward in outline, but the treatment of the first-floor windows, with the line of the architrave cut out at top and base into an ornamental outline, and crowned by just sufficient decoration in the small cornice above, is very good, and in a style well suited to this climate and atmosphere. Mr. Robins's design for the "Wilts and Dorset Bank, Salisbury" (193), is a good and pleasing classical design in itself, but wants the strength and accentuation of the lower story, which are necessary to give the appropriate expression to a bank; the comparatively light columns and circular-headed windows of the ground story suggest rather a club mansion. Next to this, Mr. Marrable's "Church of St. Peter, Deptford" (196), is worth looking at, as an admirably drawn and coloured interior view of a brick church, with square-soffited, notched arches springing from polished granite shafts, with a very happy contrast of tone and colour. "Overstone Hall" (200), by Mr. Teulon, is a dignified design for a large mansion, with what may be called a mixture of Renaissance and Elizabethan features pretty successfully fused into a consistent whole; a massive tower forms the leading object in the composition. "Frogmore, near Hereford" (201) is by the same hand, and in a different style, a late Tudor design in brick; but Mr. Teulon, however he may vary the style of his domestic buildings, always impresses on them a certain amount of originality of treatment, and is quite in a different position from those architects who merely reproduce correctly and exactly the original features of two or three styles totally unconnected with each other by age or country.

Having mentioned the best of the designs actually executed or to be executed, we may go back to the top of the room, and look at one or two of the ideal designs which have been premiated by the Academy and the Royal Institute. The "Design for a Railway Station," for which the Soane Medallion was awarded, is represented by a perspective view (No. 800) in the Academy, which did not strike us as calling for any remark. It had the aspect of a railway-station, certainly, but with an unpleasing general outline. The details shown here (111) of part of the waiting-room elevation are in the Gothic plate tracery manner much in vogue. Bas-reliefs on the first-floor level show smiths carrying on forging operations, &c., which is appropriate enough; the bas-reliefs above these windows show allegorical figures placed uneasily on the haunches of the arches, with ornamental trees growing out of the window-labels, &c., a clumsy method of placing bas-reliefs, though clever men adopt it. Mr. Florence's "Design for Theatre" (106: Royal Academy gold medal, 1869) is a fine Classical design of Roman type, suitable enough in expression. We should have thanked Mr. Florence more for it if he had suggested any means of doing away with or of treating architecturally the immense expanse of sloping roof which generally forms the crown to a theatre, and which, when seen from a little distance, deforms the whole as a design; and if also he had suggested anything more new in the way of decoration. Why festoons of flowers and naked boys are always to be considered *propria quæ theatris* we know not, unless the latter feature is a hint of the nudities that are now to be seen within. Mr. Lonsdale's "Ball and Concert Rooms" (107, 114, not premiated), though not looking very festive, even with the addition of the four shrubs in flower-pots over the entrance, show a good deal of originality, especially in the manner in which it is contrived that the upper stages of the two towers should shut up, like a telescope, into the lower portion, as they evidently will do. Bas-reliefs on the towers represent Terpsichore and suite, and Orpheus playing to the lions and other savage beasts. Our experience is, that "lions" of any sort are bad listeners at a concert, and prefer the sound of their own voices. This design is worth something, though, because it shows that the author thinks for himself. He should reconsider his towers, and remodel the upper stage, which is quite different in character from the rest, and more like timber construction than masonry.

In decorative design we have "Decoration of Vestibule, 14, Fitzroy-square," designed and executed by Mr. H. S. Marks. The arts of design (apparently) are represented by three figures in the centre, while "Music" and "Poetry" stand a little apart on either hand: the work is in the usual flat style which Mr. Marks employs so well for wall decoration, and in a very subdued scale of colour, perhaps a little too subdued, but much depends on the actual situation, light, &c. "Art Tiles," by Mr. G. E. Cooke (144) are, many of them, very pleasing, representing single figures, groups of birds and flowers, &c., lined in black, with warm buff tint on the figures against a white ground. They are not suitable for floor tiles, but would be an agreeable novelty in wall decoration, if directly introduced at suitable points. It is a mistake to attempt background, as he does in one or two of them; this kind of decoration should be perfectly flat. Mr. Chancellor's "Designs for Chimney-pieces, at Whitton Lodge, Northamptonshire" (149, 150), are most praiseworthy and successful efforts to concentrate a little more art than is generally found around the domestic fireside. The dining and drawing room chimney-pieces are shown in sepia line drawings; the former a square opening with square panels round it, filled with foliated carved ornament; the latter semicircular, and with semicircular panels round the opening, after the manner of "cusping" on a large scale. The character of the two designs, in relation to their respective positions, is very well discriminated. The boudoir and nursery chimney-pieces are shown in coloured drawings, with the same appropriate diversity of character: the nursery chimney-piece is decorated with blue and white tiles, representing little stories, calculated to attract the infant mind, and with the motto over it, "Who never tries cannot win the prize." We wish some of our large chimney-piece manufacturers would try to get a few such designs as these from those who can produce them, instead of the unmeaning and detestable things which are ranged by hundreds in their show-rooms to tempt the purse of the British Philistine. Mr. Gribble's "Design for Bookcase, and Decoration for Library" (119), is a very good drawing, in the current Gothic manner of furniture design, but with more of refinement of detail than we find in many such works. Unfortunately the wall decoration shows in the frieze the worst style of absurd conventional Mediæval figures, whereby so many architects and decorators endeavour to persuade us that we are living in a barbarous and uncivilised age when people could neither invent nor draw anything but monstrosities. It is a great pity, again, that any one who can use the pencil with so much facility and spirit as Mr. Moyr Smith should waste his ability over such worthless nonsense as the sketch of the "Signs of the Zodiac" (131) for "Wall Decoration," forsooth! What man in his right mind would go to the expense of having such a grotesque absurdity stereotyped on his wall? His "Unfinished Sketch" for wall decoration (148), with a gold background, is more serious in intention, and looks "melancholy" enough for the subject it is designed to illustrate. Mr. J. D. Crace contributes some capitally-executed sketches in colour of wall and ceiling decorations at Cairo and Damascus; one of these, on the "exterior wall of the Jama Mallah, Damascus," is a very good specimen of Arabic geometric design inlaid in coloured marbles. Mr. F. Leighton's "Decoration of Hall in Mansion at Kensington" is very happy in tone and colour, as might be expected, but seems to have been designed in a hurry; the arabesque work in the upper portion is not very good in detail. Mr. Marks sends some "Book Cover" designs, which we submit are too Egyptian in type, though clever and suggestive. Mr. I'Anson's "Study for Decoration of the British and Foreign Bible Society's Premises" (169) is somewhat hard, with its chequered soffits on the ceiling, but shows a good design for stair-railing. It does not clearly appear from the catalogue whether Messrs. Green & King's "Decorations of Teatro Massimo, Palermo," is an executed work or not; but there is a good deal of merit in the design, which, however, follows the prevalent taste for what is over-florid and showy in theatrical decoration; the best bit of it is certainly the decoration of the front of the upper tier of seats, intentionally kept rather plainer and quieter than the lower tiers, and in much better taste and more architectural in character. We have noticed the same thing often in theatre decoration, which as at present practised is generally best exactly where the decorator has intended to keep his work rather subdued. Will no one ever venture to decorate a theatre, externally and internally, on really refined artistic principles, instead of on the principle of making the most gaudy possible show for the money? It must be admitted, certainly, that such decoration would accord but ill with the style of theatrical entertainment most popular at present.

The two screens in the principal room are occupied, No. 1 by the Architectural Association Sketch-book, and No. 2 by various designs by members of the class of design in connexion with the Architectural Association. We have not space to go into these in detail, but many of the drawings on both screens are well worth attention. The Sketch-book drawings show notably great clearness and firmness of line, one or two by Mr. Vialls we may particularize as excellent in this respect. On the back of this same screen are some very fine and successful photographs of old and new buildings, including several of Bayonne and Moulins Cathedrals. Among the drawings of the class of design on Screen 2, we may mention with praise a "Design for a London Shop-front," by Mr. Watts, and two designs of the same class by Mr. W. L. Spiers, the latter very sensible and thoroughly practical designs, which we hope the author may one day be able to carry out: there is a wide enough field for improvements in shop-fronts! A "Boat-house," by Mr. Aston Webb shows clever treatment of a rather out-of-the-way subject. In the smaller room is a large collection of sketches from buildings in various parts of the world, among which we may mention the fine series of water-colour sketches of Indian subjects by Mr. Emerson, especially "Ruins in Fort Agra" (286), and "Gateway and Capitals at Bejapore" (294). Mr. Spiers sends two or three sketches in his now well-known style, and Mr. I'Anson's series of "Sketches taken at Athens in 1836" (266–276), including an admirable sketch of the monument of Lysicrates, cannot fail to interest the visitor, and ought to have seen the light earlier than the present year.

We have gone at some length into the contents of the Architectural Exhibition, being anxious not only to encourage what we regard as sound art, and to discourage its opposite, but also to convey to readers who have not visited the Gallery in Conduit-street an idea of the variety of designs, many of them exceedingly suggestive, some of very high merit indeed, which are collected there, and to stimulate them to aid in supporting and making known this medium for the collection and exhibition of drawings representing current architectural progress in this country. There is, we have reason to know, a feeling on the part of some of the leading members of the profession in London that architectural drawings had better be concentrated in the room which the Royal Academy have consented for the present to devote to architecture, in order that they may be placed where the public cannot but see them, or at least go through the room in which they are placed. This latter, however, as we hinted in our review of the Academy drawings, is really all that the public mostly do; they walk through the room; they do not come to the Academy to look at architecture, but to look at pictures; and, moreover, the Academy have not room in the one gallery they appropriate to architecture for as many drawings as can be hung in the Conduit-street rooms. The drawback is that the public do not come to this latter room; to which we reply that better funds, arising from a larger subscription-list, would render the proper advertising of the Exhibition in non-professional quarters an easier matter than it is at present. We do not say that the present exhibition is altogether satisfactory to us. We see too much of mere archæology, too little evidence of thought and purpose in designing, too many drawings which merely represent what we have seen over and over again. But these very defects remind us how useful it is, or ought to be, to the members of the profession, independently of the general public, to have this means of seeing and comparing *en masse* a number of tolerably representative drawings, of noticing the direction in which we are going, of correcting faults of habit and fashion by comparison with the few designs which stand above these influences. It rests with the profession to say whether this opportunity is to cease after the present year, or whether they will combine, as they easily may do, to furnish the means for its further continuance.

ARCHITECTS AND THE GOVERNMENT.

ON the 13th instant a deputation from the Institute of Architects attended the Prime Minister in Downing-street, touching the dismissal of Mr. Barry from the Houses of Parliament, the importance of properly qualified supervision of all important public buildings, and the ownership of architects' drawings. The deputation included Sir William Tite, M.P.; Mr. Beresford Hope, M.P.; Sir M. D. Wyatt, Professor Kerr, Professor Lewis, Mr. G. Aitchison, Mr. A. W. Blomfield, M.A.; Mr. D. Brandon, F.S.A.; Mr. F. P. Cockerell, Mr. H. Currey, Mr. R. W. Edis, F.S.A.; Mr. G. Godwin, F.R.S.; Mr. O. Hansard, Mr. C. F. Hayward, F.S.A.; Mr. E. I'Anson, Mr. E. Roberts, F.S.A.; Mr. J. P. St. Aubyn, Mr. G. Truefitt, Mr. Sancton Wood, Mr. J. H. Hakewill, Mr. J. Peacock, Mr. R. L. Roumieu, M. T. R. Smith, Mr. W. White, Mr. F. Warren, Mr. J. P. Seddon, Hon. Secretary; and Mr. C. L. Eastlake, Assistant-Secretary.

The deputation was received by Mr. Gladstone, with whom were also the Chancellor of the Exchequer and the First Commissioner of Works.

Sir W. Tite introduced the deputation and the subject. Sir Digby Wyatt, in place of his brother, the president, who was unable to attend, stated forcibly some of the views of the Institute, and Mr. Beresford Hope, Mr. Godwin, and Mr. Seddon followed. We have not notes of what was said, and can only recall the observation of one of the speakers.

He said he had been requested as an old Fellow of the Institute to add some words to what had been already urged;—first as to the ownership of drawings. As a matter of universal custom, the drawings belonged to the architect. As the conductor of a professional journal, he had corresponded during more than twenty years with persons in all parts of the kingdom on this subject, and he could say that in no one case of which he was aware had the claim, when made on the part of the employer, been maintained. He did not know that any case had been taken to a court of law: representation of the existence of the custom, and the common

sense on which it was founded, had sufficed to bring about a settlement. The custom prevailed everywhere. He believed copies of resolutions to that effect from societies in England, Ireland, and Scotland, not to speak of America, had been already handed to the Minister. Should the question go to law, he thought the courts would hesitate before coming to any decision in opposition to a custom so long and generally acted on, even should they happen to be of another opinion. It had been asserted in a public journal that the Institute of Architects had wrongly interfered in expressing their opinion that it was necessary for the worthy maintenance of national monuments and buildings that they should be under the superintendence of specially educated men of high standing. He could not agree in this objection. The Institute, a chartered body, were disinterested in so speaking, the matter affected so few, and he knew no other association from whom the public might more fairly look for an expression of opinion and guidance on the subject. Reference had been made to various public buildings, each placed under the superintendence of an architect, such as St. Paul's, the Bank, and others. He would add to the list by naming nearly all our cathedrals. These important structures had suffered for years by being left to the care of a mason or a clerk of works; but the opinion of deans and chapters had become educated on the point, and now he believed there was not one cathedral that was not under the supervision of an architect. The profession were strongly affected by the course that had been pursued towards Mr. Edward Barry, and the important questions that were raised by it, and he ventured to urge that it called for reconsideration on the part of the Government.

Mr. Ayrton replied at some length, and Mr. Gladstone also spoke; but their views, as expressed later in the day in the House of Commons when speaking on Mr. Cowper-Temple's motion, have since been so widely published that it is unnecessary now to report them. The striking point in Mr. Ayrton's reply was the assertion that much of what had been said by the deputation was founded on misconception, as Mr. Barry had not been dismissed! Mr. Gladstone, in the course of the debate, said the same thing. What Mr. Temple did was to call attention "to the correspondence relating to the dismissal of Mr. Edward Barry from his employment as architect of the Houses of Parliament; and to move that, in the opinion of this House, the abrupt discontinuance of the employment of the architect who has hitherto been engaged whenever professional skill and responsibility were required, at a moment when works entrusted to his direction were still in progress, is uncalled for and of doubtful expediency."

Mr. Gladstone, as referred to, said:—

"The words of the motion evidently implied that the completion of works in progress under his charge was to be taken out of his hands; but that was a statement which was entirely without foundation. Mr. Barry was to complete the works which were in progress exactly as he would have done if this correspondence had not taken place; and as to the future, the Chancellor of the Exchequer had given it as his opinion, that Mr. Barry ought to continue to be employed when works were required in that building. The employment of Mr. Barry as an architect neither had been discontinued with regard to works in progress, nor had been declared to be about to be discontinued with regard to architectural works which might hereafter be declared necessary."

We will say nothing of the terms of the correspondence on which the opinion out of doors was founded. On these statements being made in the House it would have been as well if the motion had been withdrawn. However, it was pressed to a division, and being twisted into a sort of "want of confidence" motion, was, of course, lost, 109 voting for it, and 152 against, a small difference under the circumstances, especially as several members quite opposed to the proceedings of the First Commissioner,—for example, Lord Elcho, Mr. Alderman Lawrence, Sir James Lawrence, and others,—refrained from voting, considering it not desirable to press the Minister too hard.

The claim to ownership of drawings still remains open, and to this we shall doubtless have to return.

A House for Societies.—A proposition is on foot to build some place of accommodation for various learned societies which meet in London. Last week a meeting was held of representatives of seventeen societies, which pay in the aggregate no less than 1,700*l.* a year for rent of premises, and the possibility was talked about of building a hall, at a cost of about 20,000*l.*

WATER SUPPLY AND OTHER QUESTIONS IN INDIA.

THE condition of the water-supply in India has recently undergone a searching examination, and the results obtained are by no means satisfactory. The low-cast (or no-cast) natives of Bengal are not particular in the matter of water, and up to a very recent period Englishmen have thought far more of conquest than of sanitary regulations; so that the sources of water supply have been very little cared for. Tanks have accumulated vast masses of vegetation, and have abounded with fish and water-insect life. Wells, as a rule, have had no protection against surface pollution, and the results have been and are that both tanks and wells continue to be fearfully polluted, not only with vegetable and mineral matters in excess, but also with animal matter of the most revolting sort, namely, drowned bodies of natives. Any person conversant with Indian history knows that the poor Hindoo is a creature of impulse and despair: death has little of terror for a famine-stricken native, and suicide by drowning, even in tanks and wells known to be in use, is fearfully common, and human bodies are committed to the sacred waters of the Ganges in countless numbers; and yet this water is used by the residents on its banks and even in Calcutta. In the Bengal Presidency, during one year, upwards of 1,200 human bodies have been removed from tanks and wells, the water of which tanks and wells is in use as a supply for towns, villages, stations, barracks, hospitals, &c., and on further cleansing some of these wells, many human bones have been removed, the flesh having wasted (dissolved) away. At many of the stations in this presidency Europeans on their first arrival suffer in various ways; as by fever, diarrhœa, and cholera, by boils, and by entozoa and intestinal worms; regiment after regiment, as the men have arrived, going through this disgusting routine of drinking tainted water and paying the penalty in human sufferings. Recent chemical analyses show that a vast proportion of these diseases is preventible. The presidency of Bengal is a region of heat, moisture, rivers, swamps, jungle, and cholera; and it is in this vast district that this dreaded disease (cholera) obtains its birth; and, in its terrible maturity and strength, passes forth over the inhabited parts of the earth to teach men that they must pay the penalty of a sudden and loathsome death if the simple laws of nature are neglected, or are blindly and selfishly broken. It has long been known that polluted water is, during epidemic periods, a deadly poison; and, if water pollution and cholera are cause and effect, the tainted wells and tanks of Bengal only perform their natural work. The preparations and the results are in accord. Tanks and wells are neglected; and, consequently, are polluted to the uttermost: the population, native and European, blindly and ignorantly drink the waters and suffer accordingly. From the grand ranges of the vast snow-capped Himalayan mountains to the sea, over the regions watered by the sacred Ganges and its numerous tributaries, this neglect prevails. The monsoons bring deluging rains and relief, for as the waters rise cholera disappears, being drowned out of the submerged swamps and vast alluvial plains, but only to reappear on the subsidence of the great flood waters, as the tropical heat evaporates the sodden soil and rotting vegetation. The mortality in such a district, so neglected, has been very great. The questions now are, "Need such mortality continue?" "Must European life be expended at the rate common to periods which have passed?" On the nature of the answers to these questions depends the supremacy of British power in India for a shorter or a longer period. Sanitary science teaches this lesson. Abandon stations situate in swamps and jungles; cleanse and protect all sources of water supply, and establish a sanitary police both for the native and for the British populations; remove every known cause of disease which is removable; wash and be clean; but see that the water is free from pollution. The continued government of India by Europeans cannot be. Great Britain may plant her pure religion, her civil law, and her sanitary order; but she will not govern in perpetuity. She may devise canals, tanks, and wells furnishing pure water, and construct net-works of highways and roads, common and iron; foster native manufactures, and encourage commerce; but in due time her work will have been accomplished and her labours must cease. In the future history of the world the facts and incidents connected with British power in India most dwelt upon will not be of armies, generals, governors, and conquests; of battles, suppressions of mutiny, or of human slaughter in any form. The memory of these may remain, breeding feelings of revenge, or of shame, or of sorrow, in proportion as the hearts of those who read are hardened or have been civilised by Christian teaching. The true and enduring fame of Great Britain will be connected with the permanent establishment of works and regulations of the most simple character; namely, those works which have tended to promote social comfort, and those regulations which have best insured human happiness, and are a means of securing health to the greatest numbers.

THE WORKMAN AND HIS FINE ART.

IF there be one thing more certain than another in connexion with the future of the working man, it would seem to be that "improvement" must be begun by himself feeling the need of it; and that that improvement must in the first place be a physical and bodily one, and one that concerns the house he lives in, the furniture in it, and the clothes he wears. Mental improvement, whatever that may mean, comes after these. It is a fact which has not often been noticed, that so strong is the desire for improvement in the human mind, even in its lowest and almost hopeless state which it so often is, unfortunately, that you cannot anywhere, in the very lowest neighbourhoods, such as the poorer districts of Westminster, close to the Abbey, or of Whitechapel, or the more famous St. Giles's,—and those are the places wherein the working classes are found to congregate and cluster together most thickly,—you cannot anywhere see a small room, however shabbily furnished, without noticing that the walls of it are thickly hung with *pictures* of some sort or other; commonly they are very coarse coloured lithographs of, it would seem, no sort of interest whatever, but yet they are pictures of figures representative in some sort of human passions and interests. How any one can endure the constant sight of such worthless things may remain a mystery, but there they always are; and it seems to show that art of a certain character is found to be necessary to every human being, however depressing their circumstances and surroundings may be. It would be a curious question to inquire into, to determine, if it be possible, as to how far is any one to be considered improved, mentally improved, who thus collects and has perpetually before him pictures of any kind, and which to him, or to her, *are* pictures and works of fine art. Is it the very beginning or the end of human culture, and how far is such a one in advance of those, if there be any, who care for none of these things? It has been affirmed that no uncultivated people anywhere are found to care about art at all; you must, it has been said, educate them first. But here in Westminster we see that people not at all educated do care about art, and pay for it, and carefully hang it up, and cannot help at all times looking at it. The costly pictures round the rooms of the wealthiest, and those common coloured prints round the room of the poorest, are nearly on a level, as far as the impelling motive is concerned. In this sense they are both educated and both improved; and here we would venture to hint at a means of adding to the educational appliances of the working man, perhaps more effective than many yet suggested, viz., the production through the autotype process or otherwise of facsimiles of the productions of the great masters of art and painting, of original drawings, etchings, engravings, both old and of to-day. Thus and through these might the working man and his wife and children educate themselves without troubling their betters; for surely no one will doubt that there is no small amount of educational force and help in such things as these, the highest efforts of the greatest minds and hands. Through their great works we see them and their thoughts and labours. Thus may the educational apparatus and furniture of the working man's house and home be added to and improved.

Another subject akin to this, and always to be found in the room of the poorest and humblest, are what are termed "chimney ornaments." Strange objects enough. What sort of pleasure or mental delight they can give it would be curious to inquire; they are never of the smallest possible *use*. Figures in coarse china-ware, very

gorgeously coloured, animals of different sorts, grotesques somehow contrived so as not to be grotesque at all, but only utterly unmeaning and silly; imitation model clocks, a whole warehouse of stupidities, are common and to be seen everywhere, and are eagerly bought and carefully displayed, and always on view, for there is no getting away from them. Let us be just to these people: it is real love of ornament and fine art that compels on a Saturday night the appropriation of a portion of the week's earnings to objects of this kind, worthless and trumpery as they are. It is certain that our present race of working and labouring men and women are, at least, above the lowest stage of human progress, for they have, as we see, art and ornament, and a love of the beautiful, as far as they can see it; for these things of beauty are found where there is hardly enough of furniture for necessary use, and are carefully arranged and kept free from dust. We have no right to despise these things, for chimney ornaments are common property, the very richest sometimes have no others; indeed, it would seem to be no little of a puzzle to discover what we should ever do without "chimney shelves," where would the "ornaments" go to, or would there be any at all anywhere? Perhaps a hint might be got from the interior of a Tartar tent or "ourt," where the "ornaments," useful things ornamented, are suspended from the walls of it.

What was said above about prints and pictures here applies to "chimney ornaments:" may they not be improved so as to help to educate the working man, and his wife, and child? Can new and *bonâ fide* modern ornaments be designed and executed, or is it necessary to resort to "old examples" and precedent, and reproduce, by aid of plaster and the electrotype process, the few remaining fragments of Greek and Roman and Italian art and furniture; and thus to educate the modern artisan by giving him the thoughts and handiwork of the old Greek and Italian workmen of days gone by, and of thoughts whose full meaning is well-nigh forgotten. Perhaps some art—benevolent—society may be found to solve this riddle. It is worth a little trouble, for the poor man's wife on a Saturday night will surely and certainly buy a "work of art," even from the very hand of Phideas himself, if it be cheap and it happens to strike her fancy. And this must *educate* both her and her husband, and their sons and daughters, in art and in the perception of the true and beautiful. The great strength and certainty of success in all this lying in the assured fact that works of ornamental art, if cheap, will be bought and looked at by the humblest cottager, if they be but provided and for sale. Anything will and must be an improvement on the present market stock, no matter where from or what it is.

It may not here be out of place to inform or remind the intelligent reader that there are "warehouses" in the east end of London which regularly import by wholesale cargoes of ornaments of the kind mentioned. They would seem to be manufactured in France and Germany, and are the production, for the most part, of children working, of course, under a regular system of manufacture, the object passing from hand to hand as it goes on to completion. The full nature of this wonderful display of indescribable trumpery can only be appreciated, or even conceived, by being seen, and the very best wish that any charitable person can possibly have, is, that the countries from which they come are either too enlightened or too ignorant to keep any portion of the stock themselves, and for their own use and eyesight. The *workshops* are the south of France and Germany, but the *markets* England and America. Thus it is that one of the best and highest faculties in man's nature is made to bring about and keep alive the most worthless of results, and it is melancholy to reflect on the time and mental and bodily strength and skill thus expended and lost.

One other note it may be useful and of some interest to make, as it may catch the notice of some who may care but little for the ignorant fancies of working people. The strangest part, perhaps, of these displays of "ornaments" is the *manufactured* oil pictures. These are copies of well-known and celebrated works of Dutch and Flemish pictures, of interiors and landscapes. Parts, at least, of these pictures would appear to be handwork, and by the same hand, but the precise mode in which they are produced it would be difficult to point out. Where the painters get their thin, washy colours from must be a manufacturers' mystery; and how it is that accident does not sometimes do a little towards the production of *painting* seems equally mysterious; but one artistic feat is certainly accomplished,—anything approaching to real painting is steered clear of in a truly dexterous way, and is a thing to wonder at. But one class of objects there is which accident or fate now and then helps; these objects are the work wholly, it is said, of small children. They are figures of animals of different kinds, cut out of soft wood, and are carved sometimes with very considerable spirit and life, and apparent knowledge of the forms and movements of animals, and even of the hair or wool which covers them. It may be, and probably is, the result, among so many, of pure accident; but it shows to what a level modern European art is reduced, and how out of it fortune will sometimes smile on things. What, if any among these children should have the faculty of catching the forms and strange movements of animal life, as their forefathers did in Gothic gables and tall spires, and the power of perpetuating them in wood and stone; and what sort of thing can that "progress" be which condemns them to their present work, so different from that of their famous "Dark Age" ancestors? These things may be bought at any toy-shop for a penny and twopence each. It is a fact which must perpetually force itself on the attention of the thoughtful observer of modern art, that all things seem to conspire towards the rendering it more and more impossible to employ legitimately and naturally the artistic capacity and energy of the time in which we of the present age live. These are all wasted and thrown away, and seem to come to an end in mere "shop-keeping," and all you can possibly get out of the most diligent inquiry into the matter is that the art-power nowadays, in Europe, at least, is wasted away, and is subservient only to the wretched ends of mere manufacture, and the production by wholesale of such things as we have above referred to. The art-power, without doubt, exists, but we can never see the true and noble results of it!

This subject is just now rendered the more especially interesting from the fact of the proposed introduction of a universal system of education, whereby it is proposed to compel everybody, whether he will or no, to be educated. It will surely then be seen that the art of *common things* is a matter of importance and interest, and the chimney ornaments on the chimney-shelf of a working man's room, and the pictures hung round the walls of it, may come to be tests of his educational advancement; and perhaps the Government inspector himself may actually find out what sort of education the workman's family of sons and daughters are receiving by a simple inspection of the chimney ornaments and pictures in his possession, and even get in time an idea of art himself.

You, sir, I think, are among the very very few who have given an adequate attention to such matters as these. They are not particularly attractive or specially fashionable, but they are certainly as important as anything can be which concerns the workman and his future, whatever that may be. Surely it is not so contemptible as many may think it; for if among the very worst of these trumpery "ornaments" we take the vilest and the most worthless and the cheapest,—say a small earthenware figure of a man and dog, the man with a daub of red, and the dog with a daub of blue, and compare such with a *very* expensive modern line engraving of a like subject,—I say it would puzzle the most expert of art analysts or art critics to determine with accuracy which of the twain is the emptiest and the most artistically worthless. A real and practical change in art and in the practice of it will certainly come about when the time shall come for even the commencement of a new order of things on the "chimney-shelf" and walls of a common room!

C. B. A.

ROOFING ZINC.

THE use of zinc has rapidly increased in this country within the memory of the present generation. In 1845 the annual consumption was about 5,000 tons, which had increased in 1860 to 25,000, or fivefold. Since then the progress has been still more rapid, and the returns of one company alone recently showed the figure of 45,000*l.* as the gross of their annual transactions in zinc, used solely for *roofing* in England and the colonies; and future years will probably show a still greater increase if the arrangements now made to secure "good work" be carefully carried out.

We should premise that throughout the Continent its use has been, and still is, more extensive. In Paris it is the leading material for roofs of every description. We may mention as examples the newer portion of the Tuileries, all the new markets, nearly all the mansions of the new Boulevards, and the Champs Élysées, dating as far back as 1830. Other places throughout Europe may be quoted to any extent, but we think the above quite sufficient to prove that the material has established itself as adapted for works of good character.

The more extended use of zinc for roofs in this country to which we at first alluded, dates from the year 1859, when the Vieille Montagne Company, the largest manufactory of zinc in the world, instituted a special inquiry into the causes of the failure of zinc here, which was conducted by Mr. Jas. Edmeston; and the result was to show clearly that the faults did not arise from the nature of the material itself, but from the use of *inferior quality* in some instances, and *improper workmanship* in others. In all cases where the zinc was good, and the work properly done, it has stood the test of time, requiring neither painting nor repairs, and when of proper thickness, it forms one of the most lasting materials for roofing that can be employed.

We may here point out the *causes of failure* which are to be avoided.

The first is the quality of the metal, which, when manufactured from inferior ore, contains certain other metals in admixture with the zinc, which, when exposed to atmospheric influences, set up voltaic action, leading ultimately to the destruction of the metal: this kind of zinc is spotty and uneven in colour, and darker than the proper quality manufactured from the best ore, the calamine.

The second cause of failure is defective workmanship, using the zinc too thin, not allowing sufficient play for expansion and contraction, using iron nails, or allowing the zinc to come in contact with iron or lime; in either case, a destructive chemical action being the result.

As examples of work done in this country, we may notice the cloisters of Canterbury Cathedral covered twenty-four years ago, and which have not cost 5*l.* for repairs; the Victoria Station, ten years ago, now in a perfectly satisfactory state; as well as many stations on different railways, and many other buildidgs in England.

In conclusion, we may notice the peculiar way in which the atmosphere acts upon zinc. Quoting from a report made to the Academy of Sciences by the Director of the Conservatoire des Arts et Métiers:—

> "It appears from actual experiment that the oxidation proceeds for about four years, gradually diminishing after the first three months, and that it then hardens into a protecting coat, '*émail*,' of a dark grey colour, preserving the metal beneath from any further deterioration."
>
> It becomes evident that as a sheet of zinc exposed to the atmosphere for a series of years loses little or nothing of its weight or thickness, and as its surface remains hard and polished like enamel, it may fairly be deduced that the following years are not likely to occasion any alteration, and therefore zinc will be placed in the same condition as bronze, which is protected by its 'patine' for ages."

There has been, to some extent, a prejudice against zinc as a lasting material, but with the evidence before us, we may safely say that where it is of a proper description and well laid, this is utterly unfounded. Its lightness and cheapness will doubtless render its use more extensive, if only necessary precautions be taken.

RULES OF PROFESSIONAL PRACTICE.

SIR,—A circumstance occurred at the recent special general meeting of the Royal Institute of British Architects, on which the profession generally may reasonably ask for a little further information; and, failing any other means of obtaining it, may I request the aid of your columns to assist in ventilating the subject?

At that meeting I took occasion to inform those present how that not long ago the whole question of the usages and rights of the profession had been fully brought before one of our superior courts, and that a decision fully recognising the principles now contended for on the part of the profession was only prevented by the conduct of a member of the Institute, who gave evidence flatly contradictory to the published statements of that body. I also complained, and I think with reason, that the late Council, on being appealed to, declined to take any decisive action in the matter, which still remains in an undecided state.

In defence of this inaction of the Council, the secretary stated, what until then was perfectly

new to me, that the member denied having given the evidence stated, and that therefore the Council could take no action.

Now, as the complainant in the case, to whom one would suppose this ought to have been at once communicated, allow me to say that during a long correspondence I had both with the secretaries and the late president, it was never once hinted that there was any denial of the facts stated in my complaint, the inaction of the Council having been then defended on totally different grounds; one being that in the opinion of the then Council the code of practice set forth in the Institute paper was only "recommended, and could not be enforced."

This idea, I need hardly say, is directly at variance with numerous previous resolutions and declarations in which the same code of practice is set forth as "authoritative," "binding alike on employers and employed," and "undoubtedly the law on the subject;" and if it is to prevail, what chance has Mr. Barry or any other member of maintaining the position now sought to be established, if brought to a legal issue?

I am further strongly inclined to think that the secretary either wholly mistook or forgot the facts, when he stated that the member whose conduct was complained of had denied the accusation. I have accordingly applied to him to verify his statement by reference to the correspondence; but, I suppose with due official reticence, he has not favoured me with any reply. I can only hope he will do so now, for surely nothing is to be gained by mystery and reserve on such subjects.*

I should be very sorry to make any complaint against a brother architect that did not admit of clearest proof, and was always ready and willing to appear before the council and substantiate every statement in any proper way that might be required. "The thing was not done in a corner," but was perfectly notorious in the Irish metropolis, where it occurred, and was noticed by the council of the Irish Institute in their annual report.

It is absurd to attempt to draw any distinction between my case and Mr. Barry's. There may be differences in detail, but there is none in principle. I brought my action to try whether there were any and what usages of the profession to be recognised as legally binding; and if Mr. Barry's case were to come to a legal issue, the main question would be the same. While one case remains undecided through conflict of evidence, another case is not likely to come to any better conclusion. Nor need it be supposed that this anomalous state of things is not well enough known to those who may have to deal with the question in the legislature. Three of the counsel engaged in my case are members of the House of Commons, and two of them are also members of the present Government. These gentlemen heard the contradictory evidence given, and two of them who were retained by me expressed their utter astonishment that members of such a profession as ours could be found ready to contradict their own published rules. A different state of things prevails, I need hardly say, in the profession they belong to. At all events, so long as it continues can we expect either the Government, the House of Commons, or the public, will pay the slightest regard to our rules or usages whenever they may be called in question?

WM. FOGERTY.

THE NEWSPAPERS AND ARCHITECTURAL CRITICISM.

SIR,—The ignorance and carelessness about subjects connected with architecture, continually displayed in the pages of English newspapers, have, I suppose, long ago been accepted by those who understand these matters as a necessary and inevitable characteristic of English journalism; but the carelessness of our press in this respect could not be more strikingly illustrated than in the fact that the *Pall Mall Gazette*, a paper which professes to take a lead in æsthetic matters, and to employ on special subjects only writers of competent special knowledge, should have printed such an article as that which was offered as a criticism of "The London University Buildings" in its impression of the 11th. The greater part of the article is cobbled from a recent description of the building in the *Observer*.

After a long descriptive paragraph reproduced word for word (without acknowledgment), we have such bits of adopted criticism as these:—

Observer.	*Pall Mall Gazette.*
"The porch has five openings, with flights of steps in front, the divisions or supports being groups of columns attached to a pier, 'rusticated' or channelled, to harmonise with the wings. The four middle piers carry sedent statues, and the two other piers terminals of peculiar form."	"The porch has five openings, with flights of steps in front, divided by groups of carved columns (*sic!*). The four middle piers bear seated statues, and the two outside piers have terminals of a peculiar form."

The compiler, not knowing apparently what "rusticated pilasters" are, translates them into "carved columns." But the finest bit is the following: the *Observer* mentions that,—

"The lower division of the wings externally has a Doric frieze continuing that of the order of the porch."

Strained through the brain of the *Pall Mall Gazette* writer, the sentence comes out this way:—

"Externally along the wings runs a light Doric fringe, which continues the order of the noble porch in front."

The *Pall Mall Gazette*, however, gives one sentence, and just one, of original criticism on the building, which I commend to the attention of your readers:—

"Taken altogether, the façade has a *striking yet graceful* appearance."

This, if not very intelligible, is at all events safe, as it may mean anything or—nothing. This is the only sentence the germ of which I cannot find in the previously published account.

Now, sir, this is only one out of many specimens of the manner in which literary papers habitually treat architecture. A publication which, when dealing with other branches of art, thinks it worth while to obtain the assistance of contributors who, at all events, give evidence of knowing something of the subject they are writing about (even if their criticism is not always on the soundest principles), is content, in dealing with an important architectural work, to cobble up remarks from another source, without even understanding their meaning, and to offer its readers an article containing not the faintest apology for anything like intelligent criticism. Editors rely, no doubt, on the ignorance of general readers with regard to architecture; but you will agree with me that those who do understand something of the principles of architecture have a right to expect that works in this branch of art should receive the same degree of attention, and that the same care should be taken to put the criticisms of such works into competent hands, as is exercised with regard to painting and music; and as the advertisers of Warren's blacking "kept a poet," I would advise literary papers to "keep an architect," unless they prefer to continue running the risk of making themselves ridiculous in the eyes of some, at least, of their readers, and to offer "pickings and stealings" as original matter.

I enclose my card, and need scarcely add that I have no possible or remotest connexion with the paper which its contemporary has laid under contribution, but write merely and entirely in the interest of

ARCHITECTURE.

* In a second communication the writer of this letter says this has been satisfactorily explained to him:—"It would appear that the member against whom I preferred the complaint did represent that his evidence was not to the effect complained of. As, however, the matter was perfectly notorious at the time, I distinctly join issue there."

CHARITABLE DINERS.

THE Literary Fund dinner, on the 11th, presided over by Lord Dufferin, who made a very good address, was lively and agreeable, not the less so, perhaps, because many of the visitors had received invitations to the concert at Buckingham Palace that evening, and so when speaking were led to be short and sharp. Sir Erskine May, the Bishop of Carlisle, Lord Houghton, the Nawab of Bengal, Mr. Bateman, F.R.S., and Sir Digby Wyatt, were amongst the speakers. An amusing spar between Professor Blackie and Mr. Tom Taylor closed the proceedings. The amount of subscriptions announced was 950*l*.

At the Newspaper Press Fund dinner, on the 14th, Mr. W. H. Smith, M.P., took the chair, and Sir W. Codrington, Mr. E. J. Reed, Lord Houghton, a member of the Spanish press, Mr. Godwin, Mr. A. Trollope, Mr. Newdegate, M.P., and others spoke, in between much very agreeable singing. About 500*l*. were contributed to the fund.

Something less than this amount was subscribed at the dinner given in aid of the Royal General Theatrical Fund, on the 16th, when H.R.H. the Prince of Wales presided, with his accustomed geniality and earnestness. Mr. Buckstone made his annual address, which included more facts, and rather less fun, than usual. Mr. Boucicault, Mr. Alfred Wigan, and Dr. Doran also spoke.

At the Printers' Pension and Almshouse festival the Lord Mayor presided. The subscriptions amounted to about 500*l*. Mr. S. C. Hall, who responded to the toast of the evening, commented on the absence of authors and publishers. In truth, however, the number of such dinners is so large that even well-wishers get tired out.

THE SEWAGE QUESTION.

Leeds.—The report presented to the Leeds town council, by the streets and sewage committee, on the utilisation of sewage, has been printed. The committee propose to adopt the A, B, C process now carried out at Leamington by the Native Guano Company, Limited. In order to carry out the system for the whole of the sewage, it is calculated that five acres of land will be amply sufficient, and that the works to be erected will not cost more than 20,000*l*. These works can be constructed in six sections. The company intend to begin by expending not more than 6,000*l*. in works, which will purify more than two million gallons daily; and if successful, then to extend the works so as to operate on the whole of the sewage. According to the agreement, the company consents to pay the corporation 5 per cent. on their outlay, and 15 per cent. of net profits, after deducting the 5 per cent. already mentioned, and working expenses. The remaining 85 per cent. is to be retained by the company.

Shoreham.—The local Board of Shoreham has resolved upon adopting the system of drainage employed at Leamington, that is, of deodorising the sewage by what is called the A, B, C system of mixture, which costs 30*s*. per ton, and gives a manure sold at 3*l*. 10*s*. per ton.

ON THE DESIRABILITY OF RESTORING CHURCHES OF THE ITALIAN STYLE OF ARCHITECTURE.

THIS subject was treated of by the Rev. E. L. Cutts, at a recent meeting of the Institute of Architects.

Mr. Cutts said the taste of the public during this generation, at least of the church-building and restoring public, has run so exclusively in the direction of the Gothic revival, that it has failed to do anything like common justice to Classical architecture in general, and to churches of that style in particular. And yet we have in London and in some of our towns churches in this style which are really noble buildings, many which are of very respectable architectural merit, and others which, while they are not perhaps such as to satisfy our architects' knowledge and taste, are still important buildings from their size and their use. *Those* ought to be carefully treated, so as to bring out their architectural merits; *these* so as to make them at least as worthy as possible of their important use.

It is quite true that many of those buildings internally look very cold and unchurchlike, but so did our old churchwardenised Gothic town churches before they were restored. Some of these Classical churches will, perhaps, need as thorough and costly a renovation as those Gothic churches did. We shall have to make a clean sweep, perhaps, of lobbies, galleries, and pews. Then we shall find in some cases that we have the shell of a very beautiful temple (as St. Mary Woolnoth and Hanover Chapel); in other cases we shall have a building of spacious area and imposing proportions, which are not unsatisfactory features for the restorer to deal with. We should have, probably, to put painted glass in the windows, and colour and gilding on the architectural features, and paintings on the walls, and statuary, perhaps, in suitable positions; and so we should give them as buildings the accessories which they have always needed. Then we shall have to replan the area so as to fit it for the purposes of a church, and to put into it furniture which will harmonise with the architecture in style, and yet be ecclesiastical in its general effect. Indeed, these are the two principles of restoration which I would venture to lay down: first, that it shall be in true harmony with the architecture of the building, not an

attempt to Gothicise or Byzantinise Italian buildings; secondly, that it shall be ecclesiastical in its feeling and effect.

The lecturer then took three or four well-known London churches as examples, and sketched out the way in which he would suggest that they should be treated. At the close he said:—

I should like to see St. Mary Woolnoth taken in hand. The Goldsmiths' Company, I believe, and private people of influence in the City, have already interposed to save it from being included among the City churches condemned to destruction; let them complete their good work by effecting such a remodelling of its beautiful interior as I have suggested,—the cost need not be large, probably 2,000*l.* would effect it; and they would give the metropolis a more beautiful Classical interior than any which it at present possesses. It would not be well adapted for a large congregation, but no large congregation now uses it; the Sunday congregation is usually fifty; but it would be admirably adapted for one of those short, daily, mid-day services which have lately been established for the use of City men; and its situation in the very focus of the City makes it the church of all others in which such a service should be held.

Happily we have the artists who could execute these restorations thus suggested, even though they include, as in some cases they ought to include, painting of a very high character of art. I have to thank Mr. J. D. Crace for kindly exhibiting on the walls to-night in general illustration of my subject, drawings of ancient Italian church decoration from Sienna and elsewhere, and of modern examples of a similar kind from Munich. Sir Digby Wyatt has been so good as to send his designs for the restoration of St. Lawrence, Jewry; and Mr. Burges his designs for the restoration of the Chapel of Worcester College, Oxford; and here is also a rough sketch of the coloured decoration of St. Peter's, Notting-hill, just executed by Messrs. Harland & Fisher. I may mention also Mr. Butterfield's restoration in progress at Christ Church, Albany-street, and St. John's, in the Waterloo-road.

I do not at all despair of seeing the public led to appreciate these buildings, which they have so long undervalued and neglected, induced to contribute munificently to their proper restoration, and I venture to promise that they would be astonished and delighted with the results.

Of the observations that followed we can only record a few.

Mr. C. F. Hayward said whether the time has now come for these notes or not, or whatever difference of opinion may exist with regard to the style of the proposed improvements, there can be no doubt these Classic churches as they exist are a reproach to us. No one could be found to say, for instance, that the grand old churches in the City referred to by Mr. Cutts are exactly in the condition that they should be, and that no alteration is required to adapt them to present times and altered circumstances. Either they ought to be taken care of, or if not deemed worthy of anything but neglect, should be swept away altogether, as actually cumbering the ground, and doing more harm than good by taking up the services of those who would be better employed elsewhere, and who are now in charge of the mere machinery of worship instead of looking after the spiritual welfare of a congregation. Already there are several of these churches restored in such a way as opens the question which Mr. Cutts has taken up, viz.: how this restoration should be carried out, whether in a Classical or in a Gothic spirit? Notwithstanding the eminent success with which some churches have been restored in a quasi-Gothic manner, I cannot help thinking Mr. Cutts is right when he advocates consistency of style, and that when there is a good Classic building to deal with, the only proper way in which an architect could work upon it would be to treat it as he would a Gothic building under similar circumstances, and taking it for what it is in fact, carry out any changes in the spirit of the original style.

Mr. E. I'Anson.—I congratulate the meeting on the advent of a gentleman who stands up and gives us a paper in favour of the Italian churches of London. They represent an epoch in the history of architecture of which, in these days, it is well to be reminded. There is, no doubt, a vast deal to be done in improving the interior of the churches in the City; but we should bear in mind, I think, that the question of church decoration was not revived until after a considerable revulsion in the state of religious sentiment. So long as Puritan and Low Church views prevailed, churches were not decorated; and up to a recent time, till the High Church party called attention to the subject, the decoration even of Gothic churches was never dreamt of. During the time in which this state of religious feeling prevailed, the residence of the inhabitants within the City was more customary than it is at the present day; but now the congregations in these City churches are exceedingly small, the interest of the parishioners in religious matters being in most instances diverted from that locality to others, and hence many of the City churches are scarcely visited at all. I was myself born and brought up, and have lived amidst these churches. I know how bare their walls are, and how deserted they now are as places of worship. I think, myself, that all Wren's churches are very noble structures, but they are singularly wanting in what we now look for as characteristic of religious places; scarcely any of them have a chancel: indeed, they are little more than square rooms. We now look upon the chancel as a distinctive feature of a church for our system of worship. In that respect they differ distinctly from Gothic churches: in other respects I venture to say they are quite as convenient as places of worship; and the Gothic churches are generally so encumbered with columns that a large portion of the congregation in the pews cannot hear what is going on. That is not the case in Wren's churches. If we look at the examples of St. Vincent de Paul and Notre Dame de Lorette, in Paris, we see how effectively internal decoration can be carried out; in the first-named church, especially, the decoration depends very much upon the magnificent historical paintings which surround the whole church, the work of H. Flandrin and others, and the cost of that style of decoration I think would hardly be subscribed for by the scanty congregations of the City churches.

Mr. Seddon.—I have been much interested by this paper, and appreciate Mr. Cutts's motives, and the practical way in which he has brought forward this subject. There are two or three other churches of the kind in London, which have been, to a certain extent, treated as he would propose, viz., one in the Waterloo-road, by Mr. Blomfield, and another in Albany-street, by Mr. Butterfield. The result in each case has been so far successful as to afford great encouragement to carry out Mr. Cutts's views in other cases.

Mr. J. D. Crace, Visitor.—Mr. Cutts advocates that where a church exists, and it is considered right that it should continue to exist, whether in London or elsewhere,—be it of a Gothic or a Classic character,—it should be made worthy of the worship which is carried on there. It appears to me that there are a large number of these structures of more or less merit, which may be rendered more worthy of the purpose for which they were built and less repellant in appearance than they now are. In considering the re- arrangement and coloured decoration of such churches, we are, perhaps, under even less difficulty than in treating churches of a Gothic character. The churches existing on the Continent, which have been more or less elaborately ornamented, and whose walls have been treated as fields for pictorial art, are very numerous; and so near as in the city of Paris we have several examples of churches of a Classic character treated ornamentally with great skill and taste. I may particularly mention that of "St. Eustache," occupying a position of transition from Gothic to Classic, which is treated with a coloured decoration of a very clever character. The treatment of most of the churches which Mr. Cutts has mentioned is certainly more difficult than of such a church as "St. Eustache," because they are more or less picturesque in composition. The interior of St. Martin's Church looks like a large concert-room or theatre; still I think, with skilful treatment, such buildings might be rendered more ecclesiastical than they are. No doubt in the case of a church like St. Stephen's, Walbrook, a very fine effect might be produced by a coloured decoration. The interior of St. Mary, Woolnoth, is dismal in the extreme. It is like a dirty whitewashed cellar. You can hardly distinguish the details owing to its grimy condition; but a certain amount of distinct coloured decoration would render its really fine architecture intelligible. It appears to me that the subject has been left too long in abeyance. The sympathies of the public and of many of us lie more in the direction of Gothic art. At the same time we are not under difficulties in falling back upon examples for the treatment of such buildings as those to which Mr. Cutts has referred.

Professor Donaldson,—I cannot allow a discussion of this nature to go on without expressing my astonishment to think of the period at which we are arrived. Fifty years ago, if a gentleman had stood up and talked of improving the architecture of Wren by squaring corners here, or cutting off angles there, it would have caused a consternation in the profession. But we have reached an irreligious epoch as to architecture, which Mr. Cutts has, I think, remarkably and fully developed this evening. It consists of colour. The mind of the worshipper is to be gratified, and his devotion excited by blue, green, or red colours on the wall, and gold on the ceiling. My own feeling is that religion is not of that gaudy-painted character, but a sober, solemn impression worthy of the religious place where we worship the Almighty in spirit and in truth. It seems to me, there ought to be reserve and soberness in the human mind, when we approach the awful presence of the Almighty. But if we are to have the eye distracted and the taste flattered—if, when a man is at his devotions, he is to be met with gold in one place and red in another, is it not calculated to distract the attention? Ornament is not a thing to be put upon architecture, but should arise from the architecture itself. That is a truth which should pervade all design: therefore in the case of our buildings for worship, they require reserve and soberness of treatment, or the religious feeling cannot be solemn. It is suggested that our Italian churches should be treated with decoration in the way proposed to-night. I have been abroad a good deal lately, and what have I seen? I have seen worship carried on at Genoa in places like theatres: solemn they are not: decorated they are. You may go all over Italy, you may go to Venice, and see pictures with gaudy frames, and they attract the worshipper and excite his feelings. Is that consistent with one's ideas of the worship of the Almighty? I think not.

Mr. Edwin Nash.—My opinion is, that a Classical or other building, if restored or altered, should be treated in the same style, with the same feeling as the original design, and I can imagine nothing more painful than a building like ancient St. Paul's with the classical portico of Inigo Jones attached to it, however beautiful the portico may have been in itself. Such a treatment as that would not occur if a due appreciation were given to art for the art itself, and I consider that architectural appreciation has always been imperfectly cultivated.

Professor Kerr. — We have arrived at several very useful propositions. The first is, that there is a certain amount of Wren's architecture which is of sufficient merit to admit of its being "restored." Secondly, we have arrived at the proposition that the restoration is to some reasonable extent to be permitted to be in accord with the original design of the buildings. This will be satisfactory to many of us, I dare not say to all, but to some. For my own part, I think if one or two of the City churches which are condemned to be pulled down were to be previously "restored" without this condition, indeed in the most approved modern Gothic manner, it might be well worth while. It would, at any rate, enable us to see what some of our friends would do for the credit of their creed with *carte blanche* as regards style. Gentlemen appear to forget that there is here something which is not in itself religion, but which at the same time is worth mentioning in connexion with religious architecture. I will not say that England is a Protestant country, the remark would be too severe; but I may say that in the time of Wren it was a Protestant country. Wren had to build Protestant churches, and Protestant churches he built, and built them well. Hence the curtailment of chancels and the regretted absence of baldachins to stand in the midst of the sweeping ceremonial stages which the lecturer advocates. We do not want such things for the ordinary forms of Protestant worship; they have no legitimate purpose for the architect to recognise. It is true that fashion changes, and that we must allow for its change; and when one side of the house is in the fashion, the other of course must be out. Some of us have been out of fashion in church building for a long while; but the time is coming when by a turn of the wheel of fortune we shall come in again. I am sure that some of our younger friends at least may expect to live to see the fashion entirely changed. I have only to add that when this time comes it may be difficult for them to know what to do in the way of "restoring" the Gothic churches that are now so fashionable.

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MR. EWAN CHRISTIAN, *Architect of East Lavington Manor House.*

THE SANITARY STATE OF BERLIN.

There have been many deaths among the inhabitants here, some from fever, some from congestion of the lungs, and other disorders, induced by the want of a sufficient supply of nutritious food, and by ill-ventilated rooms. To the best of our experience and information, the people here pay very little attention to ventilation and cleanliness. They do not keep their rooms and their houses as clean, sweet, and airy as they might, opening the windows at every opportunity, and giving a thorough washing and cleansing after any illness. They walk out of crowded, stuffy rooms into the dank evening air. Berlin is a disagreeable place. It is a city of several palaces separated by broad and dirty streets. These cannot be kept as clean as in some other towns, on account of the filthy open drains on each side of the streets, where every filth is allowed to accumulate. There is always a smell, and where there is a smell there is mischief. The deaths registered in Berlin show an annual death-rate of 34 per 1,000. Diarrhœa caused forty-five out of 469 deaths in the first week in April. However, the poor working-classes put up with great hardships and inconveniences; through the enormous rise in house-rent they are obliged to live in the cellars and back rooms of the houses, where pestilential smells, disease and poverty, dirt and dampness exist, and apparently there is no attempt made to do away with the cesspools in every house, where everything is allowed to remain for months. We cannot find words disparaging enough against the sanitary state of Berlin; and what surprises us more is the quiet resignation of the people over such a state of bad management. There is some talk about sewerage improvements and a new water company. Somehow the managers of the English Water Company have not gained the affections of the inhabitants in a business way.

Some steps have lately been taken towards building an English chapel at last. What surprises every one is, that there has not been something of the kind attempted years ago, instead of the present plan of worship allowed by the King of Prussia, who, like the late king, shows every kindness towards the British subjects residing in his capital city. Although there are only about 200 British subjects residing in Berlin, it is to be hoped that with some outward assistance the required funds will be got together.

LONDON STREET ARCHITECTURE.

BUSINESS PREMISES IN THE POULTRY.

To build a new house higher and lower than the old one on the comparatively small site of a London shop, forming fresh vaults front and back, without pulling down the old house in the first place, or stopping the business for a single day, which would have entailed a serious loss, is not an easy matter; but all this we understand was effected in the case of the building which we illustrate in our present number.

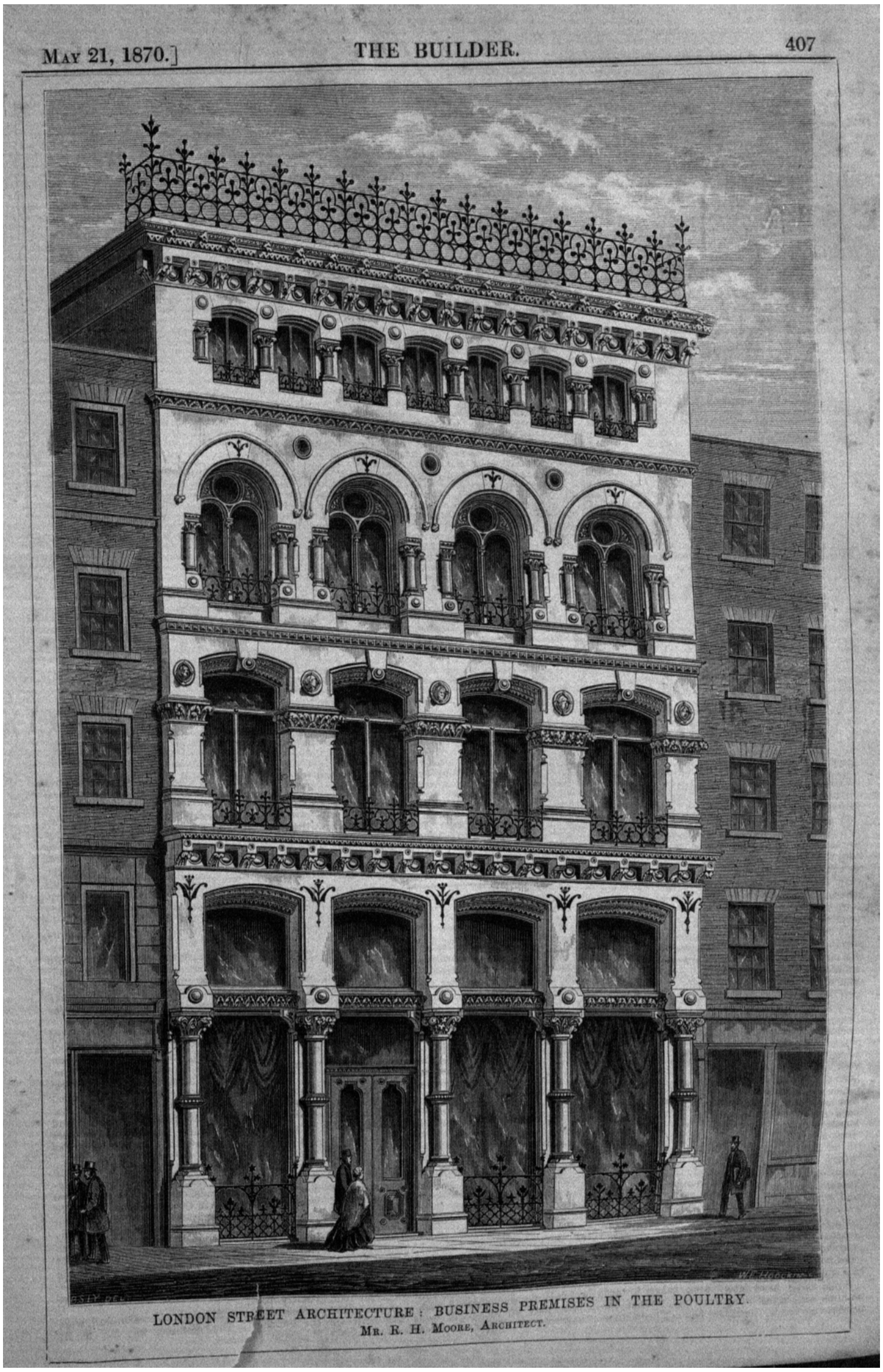
Pimm's old-established house in the Poultry and Bucklersbury has been carried on for some time past by Mr. F. Sawyer, of "The London," Fleet-street, who had acquired it by purchasing the business and freehold, and who had also obtained by purchase the leases of the adjoining houses, Nos. 4 and 5, Poultry, and 39, Bucklersbury. These leases he afterwards surrendered on obtaining a lease for eighty years from the Merchant Tailors' Company, for the purpose of extending the business of the restaurant and luncheon-rooms. How to do what was needed without interfering with the business, which was conducted on the ground-floor and basement, with the kitchen on the first-floor, was then the question.

The first difficulty that offered was, how to keep the old floors and party walls up, and build the new. 12-in. rolled iron girders were laid at short intervals to carry the timbers of the roof, which is flat, and covered with 7 lb. lead: the upper part of the party walls was built for their support. The floor below is formed entirely of wrought-iron arched girders and concrete (Moreland's patent), the whole being overlaid with 9-in. square tiles for the kitchen, with all its various fittings, cooking apparatus, and so on, which are of enormous weight, together with a brick-built oven of not less than 15 tons in weight, together with iron tanks to hold about 2,500 gallons of water, supported on strong wrought-iron girders above the roof, all of which had to be supported before the under portions of the party walls were removed and rebuilt, and so on, floor after floor, with the iron girders; and each story of party walls was successively rebuilt downwards to the completion, without interfering with the business for an hour. This, we need scarcely say, could only be successfully accomplished by the every-day superintendence of the architect, and careful attention on the part of the builders.

When all the interior is completely fitted up, the mezzanine floor above the ground-floor will be provided with luncheon-bar. The first floor is prepared as a chop and luncheon room, and the floor above is being fitted up as a ladies' dining and coffee room, the whole being supplied by a lift from the kitchen above. The proprietor intends, so soon as the whole is completed, and in good working order, to rebuild the older establishment, "Pimm's" proper, to harmonise with the new portion.

The material of front and back is white Suffolk brick; the principal cornices, string-courses, window-heads, carved caps, and carved work generally, are in Conflans stone, similar to that used by the same architect at the Hop and Malt Exchange, Southwark-street, and which he thinks stands the London atmosphere well. Mansfield stone is used for the columns to the upper windows; and Peterhead granite for the fronts, with Portland stone piers and pedestals, and light grey polished granite for bases in the Poultry front.

Messrs. Merritt & Ashby, of London-wall, were the builders. The architect was Mr. R. H. Moore, of Walbrook.



LONDON STREET ARCHITECTURE: BUSINESS PREMISES IN THE POULTRY.

MR. R. H. MOORE, ARCHITECT.

THE THRUST OF ARCHES.

SIR,—In your notice of the drawings in the Architectural Exhibition, you call attention to an octegonal church with iron columns, and refer especially to the appearance of the iron *tie-rods* at the springing of the arches. Being curious to learn how the thrust of such large arches could be counteracted, when arranged on an octagonal plan, I paid a visit to the church shortly after it was opened, and found that the tie-rods were the only provision made for balancing the *external* thrust of these arches, unless the lean-to roof of the surrounding "aisle" may be supposed to do something towards resisting the outward pressure.

As it is, of course, important that adequate provision should be made for resisting the horizontal thrust of large arches in buildings, perhaps you will allow me to discuss briefly the principles to be considered in the erection of arches which are not in a straight line on plan. When two equal arches meet at the angle of an octagon, the directions of their horizontal thrusts make an angle of 135°, and their resultant bisects this angle. Let P be the horizontal thrust of either arch, R the value of the resultant of the thrusts of the two arches, whose direction bisects the angle of the octagon. Then by the principles of mechanics,

R : P :: sin. 135° : sin. 112½°
:: sin. 45° : sin. 67½°
:: 101 : 132

Therefore the outward thrust is—

$$R = P \times \frac{101}{132}$$

Or the outward thrust, tending to push over the column from which the arches spring, is rather more than three-fourths of the horizontal thrust of either of the arches.

The horizontital ties introduced at the springing serve to counteract only a portion of the horizontal thrust; for an arch cannot be considered as a perfectly rigid mass, but its thrust acts at every part, and is greatest at the haunches; the maximum thrust in a semicircular arch acting at one-third of the distance from the springing to the crown, measured along the circumference. In the example above referred to, it seems to me that the thrust might easily have been counteracted by means of arches thrown across the outer "aisle," from each angle of the octagon to the external wall of the church. This would have done away with any necessity for ties.

E. WYNDHAM TARN.

BELLS AT ST. PAUL'S CATHEDRAL.

As I have probably devoted more time and attention to metropolitan bells in general, and to the great bell at St. Paul's in particular, than has any other person, those who have read my notes on the subject in the *Builder* from time to time will doubtless think that I ought to say a word in reply to the significant communication of Mr. Ellacombe which appeared in the number of the 30th of April last.

Your valued correspondent says:—"It [the great bell] is 6 ft. 10⅛ in. in diameter, as lately measured by Mr. Tyssen, and also by Messrs. Warner."

Now, allow me to say that upwards of ten years have passed since Mr. Tyssen measured the bell, and that gentleman tells me that as he used tape for taking the dimensions, the party holding the tape by the ring at the end might have misplaced it, and that my statement,—6 ft. 9½ in.,—may be correct. Moreover, Mr. Tyssen never said that the diameter exceeded 6 ft. 10 in. I should mention, too, that our most experienced bell-founder publicly asserted in 1855, that the diameter is 6 ft. 9½ in., and when I examined the bell in 1868 I found he was right.

Speaking of the smaller bell in the north-west tower, made by Philip Wightman in 1700, and now used for the daily service, Mr. Ellacombe ventures to remark:—"This may have been cast from the metal of the bell in the clock tower opposite Westminster Hall-gate . . . . called Great Tom."

Your esteemed correspondent must admit, however, that this is a very unfortunate conjecture. Philip Wightman recast "Great Tom of Westminster," to which a quantity of new metal was added, for the clock in the south-western tower of the cathedral; and not as a service bell for the other tower. But Wightman's Great Clock Bell proving faulty, Richard Phelps made one of *new* metal in 1709, and having first delivered the same at the cathedral, he took possession of Wightman's bell. I need scarcely repeat what I said in the *Builder* of April 4th, 1868,—Richard Phelps recast his bell of 1709 in 1716.

As to the weight of the present Great Bell, had Mr. Ellacombe said, "about five tons,"—as I have elsewhere,—instead of 5 tons 4 cwt., he would have been nearer the mark. It is true that in 1867, I gave the latter weight on the same authority as Mr. Ellacombe now gives it, but having since been permitted to consult the "Fabric Accounts" in the private library at the cathedral, I am now in a position to state that the weight of the bell is rather under five tons.

Our excellent campanist says:—"The key-note of the bell is A flat, but the sound when heard at the greatest distance is E flat, or a fifth above the key-note."

Now, I do not hesitate to say that this statement, which appeared in a certain periodical many years ago, and has since been copied over and over again into various other works, is erroneous, and very unsatisfactory to competent judges of bells and musical sounds.

With reference to a letter from our respected bell-founders in last week's number, permit me to say that in the *Builder* of March 10th, 1855, Messrs. Chas. & Geo. Mears, speaking of the Great Bell at St. Paul's, wrote thus:—"Diameter, 6 ft. 9½ in.; height to the top of crown, 6 ft. 4½ in.; thickness at sound-bow, 5½ in.; weight, 5 tons 4 cwt." But in your impression of May 14th, 1870, Messrs. Mears & Stainbank write:—"It is 6 ft. 10 in. in diameter at mouth, 4 ft. 7 in. (*sic*) from lip to shoulder, 5¾ in. thick at sound-bow, and of the estimated weight of 5 tons."

Here, then, are specimens of some of the erroneous and conflicting statements with which we constantly meet in searching numerous works for materials with a view to compile an accurate account of remarkable bells.

It may not be out of place to add that the "part of the orginal contract for making and fixing the bell" [at the cathedral] which is now in the possession of Messrs. Mears & Stainbank, and which I examined some time ago, has nothing whatever to do with the present great bell. It relates to a former bell cast in 1709.

THOMAS WALESBY.

PALESTINE EXPLORATION FUND.

AN influential meeting, largely attended, was held on Monday last at the Royal Institution, Albemarle-street, to hear Captain Warren report the result of recent explorations in Jerusalem. The Archbishop of York, in the chair, showed the value of the association, and appealed for further aid. Captain Warren seemed to think it rather a joke than otherwise that nothing he had yet done settled anything. We confess to viewing the matter differently, sincerely desiring that the results were more positive than they are. Sir H. Rawlinson, Mr. S. Morley, the Dean of Westminster, Mr. G. Grove, and Professor Donaldson gave their aid at the meeting. We wish the latter gentleman, who has been on the spot, would candidly tell us whether or not he thinks the explorers are on the right tack or not. Unless we have very wrong impressions, the results, so far as the society may take credit, are sadly incommensurate with the amount of money spent. This may be simply unfortunate; but it may be otherwise.

THE DISASTER AT RICHMOND, VIRGINIA.

ADVICES from the United States contain long accounts of the terrible disaster which took place at Richmond, Virginia, by the falling of the floor of the Court of Appeals on the 27th ult. The daily papers having announced that the Court of Appeals would make their decision at eleven o'clock in the Ellyson-Chahoon Mayoralty case, an immense crowd packed the court-room, in the second story of the Capitol, before the hour named. The court-room is just over the Hall of the House of Delegates. Suddenly the packed gallery gave way, and was thrown forward with a heavy concussion into the centre of the court-room. This occurrence, with the rushing and surging of the crowd, caused the whole floor to break through from the walls and sink in a cloud of dust, and, laden with its load of human beings, down into the hall of the House of Delegates below. It is fortunate that the catastrophe happened at the early hour of eleven; for if it had occurred after the House of Delegates had met, scarcely any of the members could have escaped. A large meeting of Delegates which had been held in the hall had just adjourned. The scene which was presented after the fall of the suspended court-room was frightful beyond description. Those who were struck by timbers and caught by the gallery above, and those who were in the lower hall and caught by the falling mass, were the sufferers from the occurrence. It was a cause of thankfulness that so small a proportion of the great number of persons who were in the court-room has been injured. The number of persons killed proved to be sixty, and 125 others were more or less seriously injured.

An experienced architect who has reviewed the plan of the Capitol says the girder which gave way was composed of two pieces of timber bolted together, making when combined an area of 13 in. by 20 in. It was formerly supported by columns, which were removed to improve the appearance of the hall of the House of Delegates. In the centre of the girder was a mortise, which reduced the available strength to 9½ in. by 20 in. The fatal error was in making the interior changes without examining the girder with reference to its capacity to endure the new stress placed upon it.

GALLERY OF ILLUSTRATION.

MR. AND MRS. GERMAN REED added, on Monday last, to their always attractive evening's amusement, a spirited and clever half-hour's performance by Mr. Corney Grain. The production, written by himself, is entitled "The School Feast," and the contributions of several of the invited towards the amusement of the assembled sharers of the feast, afford matter for the display of Mr. Corney Grain's varied talent. One was irresistibly reminded of John Parry in his palmy days. Mr. Corney Grain's perfect command of the piano as an accompanist, his excellent voice, animated and gentlemanly manner, his great powers of imitation, rendered his first appearance in public a success. Whether in the nigger song with chorus, or as the young lady with her French song, or the one singing her *roulades* unappreciable to village ears, or the young short-sighted gentleman whose mistakes in the text of his song introduced most ludicrous witticisms, or in the crowning song,—the Scotch ballad, with bagpipe accompaniment by an amateur,—Mr. Grain succeeded in bringing down rapturous plaudits from a crowded audience.

THE ROOF OF THE ROYAL ALBERT HALL.

MANY readers will be glad to know that the supports or wedges under the centres on which this roof has been constructed, were knocked out on Wednesday, the 11th inst., by Col. Scott, the chief director of works, and Mr. J. W. Grover, the constructive engineer, and that the results were very favourable, the deflection being only about 5-16ths in the centre. On examination since, it is found that this has but very slightly increased. In fact, the behaviour of the roof has been excellent, notwithstanding the moderate use of iron, and it is believed that it has now attained its final bearing.

The total height to the apex is about 165 ft., which is somewhere about 40 ft. below the top of the monument. The span (major), is 219 ft.; (minor axis), 187 ft.; the great Birmingham roof major span being, we believe, 212 ft., and the St. Pancras, 245 ft., which, however, springs from the ground, and not from the top of a wall, over 100 ft. high. The elliptical form necessarily made the calculations of this roof very troublesome.

THE FAIRFORD WINDOWS.

THOSE of our readers who took interest in the discussion as to the date and authorship of the Fairford windows, will be glad to hear that the managers of the South Kensington Museum have made arrangements for the exhibition of *fac similes*, so far as these can be made in any material except glass, of these interesting works. They are to be of coloured tracings, or coloured drawings produced by the aid of tracing, and will give not only the pictorial outline, but the exact tints, the leads, and the entire details of the whole series of windows. Two of the lights have already been received. They are at present hung in the corridor which gives access to the offices.

What with the actual specimens of ancient glass which are in the Museum, the aid of the Art Library, in such works as those of Winston and of Franks, and the coloured drawings of which we hope that we now welcome only the first, the material elements of instruction in this fascinating art are being richly gathered for the service of the student in the Art Museum.

THE SWANSEA NEW WATER-WORKS.

A QUESTION of serious moment has been brought under the notice of the Swansea Board of Health. A report from the surveyor was read, which stated that there was a leakage in the main pipes of the conduit between the reservoir and Morriston, amounting to upwards of 260,000 gallons of water per diem. The new works were opened with considerable *éclat* in 1863, the contractor having been voted 500*l.* by the then Corporation as a bonus for completing the works some twelve months before the time specified in his contract. At the opening the works were said to have been finished in the most satisfactory manner, and important effects, both sanitary and pecuniary, were anticipated. Although not yet seven years old, however, the works still cost, so our authority, the *Cambrian*, says, something like 1,000*l.* per annum in repairs alone. The surveyor is afraid to give even an approximate estimate of the outlay now requisite. The main pipes from the reservoir to Morriston are something like six miles in extent. The leakage cannot, it appears, be localised within narrower limits. The two previously existing water-works have been amalgamated with the newer and more extensive works, and the total cost of the Swansea water supply amounts, in round numbers, to about 160,500*l.* The total revenue derivable from this vast outlay is said to be but little more (after deducting the cost of repairs and working expenses) than 3,500*l.* a year. The *Cambrian* asks: Is it possible that the giving 500*l.* as a bonus for the early completion of the works led to too great haste in the laying of the service-pipes? The works were planned by Mr. Rawlinson, C.E.; were carried out by Mr. William Williams, contractor, under the personal superintendence of Mr. Cousens, the town surveyor; and a clerk of the works was employed.

ACCIDENTS.

ONE of the men engaged at the New Gas Works, near Barking, went down a well to measure the depth of water. It appears that the well was used for the purpose of draining the land, and before he had been down long he was suddenly seen by those above to stagger and fall. One of his companions, in spite of all past experience and warning, instantly went to his rescue; but the poor fellow shared the same fate. Undeterred by this, a third, fourth, fifth, and sixth went down (!), but only with the same sad results,—all falling victims to the foul air contained in the well. After a short time another man, provided with a diving-dress, was lowered, and succeeded in bringing them up. A medical man, after four hours' laborious work, succeeded in recovering two of the seven.

Two Men buried alive at Cambridge. — A number of men were engaged in excavating for a sewer for a house about to be erected in the immediate vicinity of Parker's-place. They had reached a depth of about 11 ft., when the earth at one side suddenly caved in, literally burying three men. The most strenuous exertions were made by their fellow-workmen for their release, and one, who was in an upright position, was got out alive, and is now in a fair way of recovery. The other poor fellows, who were in a stooping position, were quite dead when extricated. At the inquest the jury, after a long deliberation, returned a verdict of "Accidental death," and expressed the opinion that due caution had not been exercised by one of the men, named Moore, who had objected to the shoring up.

Fall down a Well 25 ft. deep.—A curious accident, fortunately unattended by serious consequences, has happened at Writtle. It appears that Mr. Henry Tanner, jun., plumber, of Chelmsford, was engaged in repairing the suction-pipe belonging to a pump-well in the kitchen of a house, when a bearer or plank stretching across the well, upon which he was seated, broke in two, and he was precipitated to the bottom, a depth of no less than 25 ft. Fortunately, the well contained about 7 ft. of water, and this so effectually checked the fall that Mr. Tanner escaped as nearly as possible unscathed. A first attempt to climb the suction-pipe proved unavailing, for, when half-way up, Mr. Tanner sustained another fall to the bottom, but again without receiving any injury. A second essay to climb the pipe was more successful.

Fall of a Church.—A serious accident has occurred in Bernard-street, Bridgton, Glasgow, whereby five men have been rather severely injured, one, it was feared, fatally. A temporary wooden church was being erected at the east end of the street, in connexion with the Independent body. The building, which measured about 50 ft. in length by 20 ft. broad, and 18 ft. to the top of the side walls, had made considerable progress towards completion, the woodwork of the roof having been finished, and the slaters having begun operations, when the sides of the building suddenly gave way, and the roof fell in. The cause of the accident is not known.

OPENING OF THE NEW STANLEY PARK, LIVERPOOL.

ON Saturday afternoon a new public park at the north-east end of Liverpool, and called the Stanley-park, was inaugurated by the mayor and corporation of the town. The park is finely situate, and comprises about 100 acres of land. It has been laid out at a cost of 42,000*l.*, by Mr. Kemp, of Birkenhead. The contract for the whole of the groundwork was let to Mr. Pearson Lee, of West Derby. Mr. E. R. Robson, the Corporation architect, was deputed to design and carry out the various architectural features of the park, and the contract for these was undertaken by Mr. Samuel Campbell. Mr. Peake obtained the contract for the different iron fences in and around the park; and Messrs. Morton & Co. got the execution of the fence by the side of the equestrian drive in Priory-road. About 6¾ acres of the park land, on the upper side, adjoining Anfield-road, have been reserved as building sites, and several plots have been already sold, one pair of villas already being seen rising out of the ground. About seven acres have been devoted to an ornamental lake, and the remainder is occupied by a terrace ride, lawns, plantations, walks, &c. Of the total estimate an amount of about 19,000*l.* has been expended on ground work, drains, planting, &c.; and the rest has been required for cottages and other agricultural works, fences, &c. A complete set of working sheds and a reserve garden are provided in the neighbourhood of the superintendent's house; and retiring-rooms and other conveniences both for men and women are attached to the foreman's cottage at the top of Mill-lane. Stanley Park is the smallest of the three principal Liverpool parks, the contents of which, in statute acres, are:—

STANLEY PARK.		NEWSHAM PARK.		SEFTON PARK.	
Total area.	Building land.	Total area.	Building land.	Total area.	Building land.
100	6¼	160	37½, and about 8½ sold.	382	113

THE TRADES MOVEMENT.

Arbitration in Germany.—The committee of the German Chamber of Manufacturers at Leipsic have resolved to form societies of manufacturers in the chief centres of German industry, for the purpose of furthering the interests of the work men, keeping the peace between them and their employers, and settling any differences which may arise between them by means of friendly compromise.

Strike of Bricklayers' Labourers at Wolverhampton.—A new town-hall, with police barracks, cells, quarter sessions and police courts, and council-chamber, are being built on one site in Wolverhampton at a great cost; but nearly all the work has been stopped by the action of the bricklayers' labourers. These men are now being paid 4d. an hour, or 18s. 10d. a week, for they leave at noon on Saturdays. They have turned out, however, because their employer, Mr. Horseman, of Wolverhampton, builder, will not give them another ½d. per hour, for which they have given a week's notice. Mr. Horseman claims that any notice of alteration now, in wages, should have been given last March, and he is taking steps to resume operations by means which will render him to a large extent independent of the labourers. There is coming to Wolverhampton from Manchester a steam engine and other apparatus, by which the bricks will be hoisted by machinery, and the mortar made without labourers' aid. Some labourers whom he has already got from Manchester have left, because they have been threatened with death if they remain in the town!

MONUMENTAL.

THERE is already talk of a national monument to the late Sir James Young Simpson, the discoverer of the anæsthetic or sleep-producing power of chloroform, which he used most extensively in his own practice, as professor of midwifery; so relieving "the woman" from the prediction (not curse) in Genesis, that in sorrow or pain she would bring forth her children. The professor "shut up" certain Calvinistic objectors to his practice, on the score that it was flying in the face of a Divine curse, by quoting Scripture in the case of the creation, or bringing forth, of "the woman" herself out of "the man," whom God, to that end, plunged into a deep sleep. What God himself had done, he said, could not be wrong.——A commencement has at length been made with the county memorial of the late Earl of Carlisle at Brampton. The Moat, a high hill in close proximity to the town, and forming part of the Naworth Castle estate, has been selected for the site. The pedestal, from designs by Mr. Foley, the sculptor, has already been completed by Messrs. Nelson & Cockburn, of Carlisle. It is octagonal in shape, about 8 ft. 3 in. in height, and built of white stone. Originally it was intended to take the stone from one of the quarries in the neighbourhood belonging to the estate, and Tercrosset, near Gilsland, was fixed upon; but on an examination it was found that although admirable in colour and very durable, it was too coarse in the grain to admit of that fine polish and carving which the nature of the work required. Recourse had therefore to be had to the well-known quarry of Prudah, in Northumberland. The statue is now in the hands of the bronze founder. It will be 8 ft. 3 in. in height. His lordship, habited in the robes and insignia of the Order of the Garter, is represented in a standing position, the hand resting on a book. The entire cost of the memorial will amount to about 800*l.*

THE BUILDING ACT.

SIR,—Your correspondent, Mr. Gundry, seems to have lost sight of the special reasons which induced the Legislature to frame the existing regulations with respect to window sashes and their frames; and I for one should greatly regret to see so useful a regulation superseded.

I believe I am right in saying that many of the provisions of the present Act were framed in accordance with the opinions expressed by the late Mr. Braidwood, and were specially directed to the prevention of accidents by fire. What, I would ask, can be more dangerous to property or the lives and limbs of persons engaged in subduing a fire than burning window-frames falling *outwards* instead of *inwards*? The object of setting these frames 4½ in. back from the external face of a wall, is manifestly in the case of fire to prevent their falling out, and thus becoming a source of danger.

With respect to the question of taste, that I am quite content to leave in other hands, and would merely remark that safety ought to be the first consideration; the other advantage mentioned by your correspondent of placing the glass as near as possible to the exterior surface, can almost always be obtained practically by splaying or chamfering the window jambs. EDWARD POWER.

"AN ARCHITECT'S BILL."

PECK *v.* LINCOLNSHIRE AND NOTTINGHAMSHIRE UNION SCHOOLS.

SIR,—An extract from the *Lincoln Journal* appears under the above heading in your impression of May 7th, and it is, as you will presently see, so manifestly unfair to our client, Mr. Peck, that we have no option but to beg insertion in your next number of the facts as they really stand. We will not inquire from whence the *Lincoln Journal* derived its inspiration; it is sufficient to bear in mind that London architects of success are not always too popular with their country brethren. The facts, as briefly as we can put them together, are these. Mr. Peck's plans were accepted by the managers, who, however, eventually abandoned their scheme *in toto*. This was done in March, 1869. Before the abandonment, Mr. Peck was instructed to prepare plans and estimates in accordance with instructions given, so as to reduce the accommodation, and he did so. After the abandonment, Mr. Peck's account stood as follows:—

Commission on 13,330*l.*, being estimate of expenditure	£666 10 0
Surveyor's charges for preparing quantities and lithography	214 19 0
Commission on 9,140*l.* for fresh plans and estimates, and various attendance on meetings and at Poor Law Board	238 0 0
Total	£1,119 0 0

Under the circumstances of abandonment, Mr. Peck expressed his willingness to waive the last item at the especial request of the clerk to the Board. He did this, however, in contemplation of a prompt settlement of the balance; this not taking place, he assented to a reference

to arbitration, and the terms of reference were placed in our hands to settle with the solicitor to the Board, Mr. Tweed, of Lincoln. We naturally insisted on the full amount of claim going before the arbitrators, and this being refused, after a month and ten days' most patient waiting and correspondence, which, in justice to Mr. Peck, should be seen *in extenso*, we sent Mr. Tweed a writ for acceptance of service. After several days' further delay, Mr. Tweed returned the writ, complaining of its having been issued, and declining to accept service, which we had to effect on Mr. Clements, the Clerk to the Board, all adding to expense. We had on several occasions inquired of Mr. Tweed the corporate appellation of his Board, without success; but after the action was commenced he suggested that it should have been brought against the managers personally; and, strongly desiring to avoid personal annoyance to those gentlemen, we begged him again and again to accept service for them. After nearly a month's further delay, we heard from Mr. Tweed that he had no instructions; and on the 4th of February we wrote to the Chairman of the Board, Sir Glynne Gregory, a long letter, recapitulating the facts; and, in our desire to avoid making expenses and giving needless annoyance, we suggested that he and the Vice-Chairman should instruct a solicitor to appear for them in the name of the Board. This was acted on, and Messrs. Beaumont, of Grantham, gave the required undertaking; Sir Glynne Gregory and the archdeacon, Trollope, were consequently *not* served with copies of writs, as is most incorrectly and unfairly stated; but by their own choice those gentlemen represented the whole Board for the reasons and in the manner we have stated. A good deal of correspondence afterwards ensued between Messrs. Beaumont and ourselves with a view to settlement, and the sum of 691*l.* was offered in full discharge of Mr. Peck's claim. We declined this on the strong advice of leading architects we consulted; and at our instance the trial was postponed from the first to the second sittings in Easter Term, in order, if possible, to settle without either side being put to the expense of delivering briefs. Eventually, sick and tired of the delays, and, like all professional men, most unwilling to go into court, Mr. Peck, entirely against our advice, insisted on receiving the sum just named in settlement, and this after a delay of over a year after the abandonment of the scheme.

MONCKTON & Co.

Gray's Inn.

ARCHITECTS' ACTIONS.

THE long-pending Chancery suit between Mr. C. J. Richardson and Mr. Whatman, M.P., relative to buildings at Queen's-gate, was, on the 29th of April last, in the Rolls Court, decided in favour of Mr. Richardson, who obtained the decree, after a very short discussion. The whole of the Buildings are ordered by the Court to be sold.

The action first came into Court on the 26th. 800 letters were produced in court. Sir Richard Baggalley, defendant's counsel, asked if a compromise could be effected, as the case was a very complicated one. Mr. Richardson assented, naming 2,000*l.* Time was allowed for him to consult and advise Mr. Whatman. On his refusing any compromise, the case came on directly afterwards.

NEWTON'S OBSERVATORY.

SIR,—Does the notice at p. 374 refer to the erection lately on the top of the house in Orange-street? And if so, is John Timbs (I believe no mean authority) correct in his description of the same in his "Curiosities of London?"

I quote from memory, not having the book handy, but I think he says that "this Observatory, popularly believed to be Newton's Observatory, is not so in fact, having been built by a Frenchman, a subsequent tenant of Newton's House." The paragraph in the *Builder* states that the Observatory is to be sold for the low sum of 500*l.* or guineas, and a proposal is made to purchase the same, and present it to the nation; also that some Americans are likely to speculate on the purchase.

Are these Americans the parties who have purchased the erection in question very recently for something less than 100*l.*? If so I must admire the cuteness of

OUR AMERICAN COUSIN.

CHURCH-BUILDING NEWS.

Turnworth.—The church here has been re-opened after restoration. The operations which have now been brought to a termination consist of an entire rebuilding of the church, with the exception of the tower. The plan of enlargement may be approximately described as the erection of a nave, chancel, and porch, covering the whole site of the old structure; a north aisle and a chancel aisle being built on new ground taken in from the churchyard; a vestry is screened off at the east end. The tower is the only portion of the original edifice left standing. An examination of the few fragments of work in the old church walls—and chiefly of a window on the north side—which were at all characteristic of a style, determined the architect in his choice of Early English features as the type that it would be desirable to follow in the new design. The new church affords sitting accommodation for about 150 persons, including the school children, for whom seats have been fitted up under the tower. The roofs of the nave and aisles are open-timbered, and supported by framed trusses, which in their turn spring from carved stone corbels in the walls. The chancel roof assumes a polygonal shape, the angels being emphasised by moulded ribs dividing the whole surface into panels. The use of cathedral glass in the windows softens the light of the interior. Mr. G. R. Crickmay, of Weymouth, was the architect under whose superintendence the building was begun and completed, the original plans having been prepared by the late Mr. John Hicks, of Dorchester. The builder was Mr. Augustine Green, of Blandford. The carving was by Messrs. Boulton & Son, of Cheltenham.

Boyton (East Suffolk).—A greater proof of the extent to which the work of church restoration is now being carried out could not be given than the fact that it has reached the out-of-the-way little parish of Boyton, the church of which has been re-opened, after being almost re-built. The church is dedicated to St. Andrew, and must have been founded at a very early period; but the structure now opened contains very few relics of the original building. The chancel has been rebuilt at a comparatively recent date, but in a style that was thoroughly debased. The whole church was mean and unsightly in the extreme. Now it has been almost entirely rebuilt. The tower, which alone has not been rebuilt, belongs to the Decorated style, and the new work is Decorated in character. Externally the walls of the tower have been cleaned, and a new plain stone parapet put up. The new part of the church consists of the nave, with south porch, and north transept, and chancel. The walls are flint, with white stone dressings. The roof is tiled. The present building is some 15 ft. longer and 4 ft. wider than was the old church. Internally the roofs of nave, chancel, and transept are open and of varnished deal. In the north wall of the nave are two two-light windows, and there are the same number in the south wall. In the transept gable wall is a two-light window, whilst the chancel is lighted by a three-light east window and two single-light windows in both the north and south walls. The nave and transept are benched with open deal benches, and those of the chancel are of oak. Mr. Wm. Smith, of London, was the architect, and the contract was taken by Mr. W. G. Cunnold, of Ipswich, for 996*l.*, exclusive of the restoration of the tower, which came to 118*l.*, and some extra work, which brought up the total to 1,232*l.*, besides the old materials, worth about 80*l.*, so that the total cost of rebuilding the church has been a little over 1,300*l.*

Cransley.—The parish church here has been re-opened for divine service, after a restoration. The old high wainscot around the chancel, by which it was rendered dark and gloomy, has been removed. The choir-seats and the prayer-desks are of oak, carved, and the floor is laid with Minton's tiles. The roof, as also that of the whole of the church, has been taken off, but so much of the material (oak) as was sufficiently sound has been replaced, the new work required being of oak of English growth. The outer covering (of copper and lead) of the whole roof has been made good, and underneath it has been placed a layer of dry hair roofing-felt. The whole work has been carried out from the designs and under the superintendence of Messrs. Slater & Carpenter, of London; and under the eye of Mr. Lucas, as clerk of the works. The builders engaged on it were Messrs. J. & G. Henson, of Kettering; the carving having been done by Mr. Gregson, of Northampton; the carpenter's and joiner's work by Mr. W. Henson, of Finedon; and the ironwork by Messrs. Mobbs & Co., of Northampton. The cost of the work is 2,000*l.*

Isham, near Kettering.—The church here has been re-opened after a restoration under the superintendence of Mr. W. M. Fawcett, of Cambridge, architect. The builder was Mr. Day, of Bedford; the plumber, Mr. Downing, of Finedon.

The high pews have been replaced by oak seats. The west arch, which was blocked up, has been thrown open. There are new roofs to the chancel and nave, and in part also to the side aisles. The walls have been freshly plastered, and the pillars and arches have been scraped, and, where necessary, restored. A new heating apparatus, by Mr. Gidney, of East Durham, has been put in. The cost of the restoration has been about 2,000*l.*

Long Newton.—The parish church here has been reconsecrated. The edifice has been enlarged, chiefly at the cost of the Right Hon. T. H. S. Sothern Estcourt and the rector. Our space will not admit of a full account of all the alterations, additions, and decorations, but we may mention one or two things done. The chancel, where the principal enlargement has taken place, is embellished with two stained glass windows. The east one was erected by "The Family," in fulfilment of a wish expressed by the late rector, the Rev. Edmund Estcourt; the style, like the building, is Early English. The north one, in memory of the same reverend gentleman, was given by his own children; it is by Messrs. Hardman. The seats in the chancel occupied by the choir are carved out of cedar grown on the estate. The pulpit is of carved oak and rosewood. The west window is a subscription one, in memory of the late Mr. Edward Estcourt. The work has been carried out under the direction of Mr. Wyatt, the architect, by Mr. Brown, of Tetbury.

Speldhurst.—The chief stone of the alterations of the parish church here has been laid. The alterations will be in the body of the edifice, the old tower (which will have a new top put on, if funds are forthcoming) being left standing. The body of the church will be of the Early English style of architecture, from designs made by Mr. J. O. Scott, with a nave and one broad aisle, and it is supposed it will accommodate 420 persons. The cost is estimated at 3,500*l.* Mr. Constable, of Penshurst, is the builder, and Mr. John Wheeler is the clerk of the works.

Cerne Abbas (Dorset).—The church here has undergone considerable alteration and repair, and has been re-opened for divine service. The architect employed was Mr. Wyatt, the diocesan architect; and Mr. Northover and Mr. Byles were the builders. The stone for dressings and the carvings required in the restoration were provided by Mr. Chapman, of Hamhill. The pews have been remodelled. The panelling of woodwork has been removed from before the west window, and the lofty panelled arch thrown open. The nave and aisles are approached by panelled doors of oak, which, when closed, form an apartment for the ringers of the five bells with which the tower is furnished. Another feature of the restoration is the removal of the dead wall which formerly extended from the rood-screen to the ceiling, hiding the east window, in which are many pieces of old stained glass. The rubble masonry which filled the space above the rood-screen has been removed, and a moulded chancel arch, 16 ft. in the span, has been inserted. A serious obstacle existed in the way of constructing this arch, as the rood-screen, over which it has been built, divides the chancel from the nave between, and not, as is usually the case, at the pillars supporting the arches of the roof. Two of the panels had, therefore, to be cut away on either side, and abutments built on which to raise the chancel arch. Over the rood-screen is a battlemented cornice.

White Colne.—The church at White Colne, which has during the past ten months undergone extensive alterations and repairs, has been re-opened for divine service. The architect employed was Mr. Charles Moxon, of London; and the builder and contractor, Mr. Z. Rogers, of Earls Colne. In course of the restorations ancient remains have been discovered, including some early paintings which were hidden under a thick coating of plaster. The old roof was found perfectly good, but the walls have been replaced. A painted window, the subject being Christ blessing little children, has been put in at the west end of the church at the expense of the vicar. A great change has been made in the interior of the building. The old coating of plaster and the top of the old tower being in a very bad condition, it was found necessary to rebuild the belfry window and string-course, and a shingle spire of 30 ft. in height has been added. The old porch has been replaced with an entirely new one composed of stone and flint. For want of funds the chancel has not been completed. In the nave of the church, we may state that in lieu of the pews open benches have been substituted, and that 220 persons may now be accommodated. The cost of the restoration as at present completed is nigh 700*l.*, and a further sum of 200*l.* is yet required.

Waltham St. Lawrence.—The new concrete church of All Saints here has been consecrated. The site, which occupies 1 rood 2 perches, was given by Lord Braybrooke. Mr. J. Sharp, jun., of Waltham St. Lawrence, was the architect, and Mr. R. Lawrence, of the same village, was the builder. The entire cost of the church, which is intended to be a chapel of ease to the parish church, is 930*l.* The church is built in the First Pointed style, and consists of nave, chancel, apse, north and south transepts, and open wooden porch at south entrance, with a bell-turret at the west end. The walls on the exterior are of red brick, slightly relieved by black bands, and in the interior of concrete block in imitation of stone. The mullions, splays, hood-moulds, string-courses, and corbels are all of red brick, and were moulded by the builder at his own kiln from the drawings of the architect. In the apse, with its coloured win-

dows, there are three single lights, the centre one being filled with a stained-glass figure of the Saviour. The side lights are filled with stained-glass figures of St. Peter and St. Paul. The walls are composed of concrete blocks, and the timber roofs are stained and plastered between the rafters. The chancel and transept arches are of stone, with carved capitals and corbels. The church will seat 180 persons.

DISSENTING CHURCH BUILDING NEWS.

Bath.—Hayhill new chapel has been opened. The style is Gothic, of the thirteenth century. Owing to the difficulties of the site the ground plan of the building is of an irregular character, the ends not being parallel, and the sides consequently of different length. The end facing Bladud's-buildings forms the front of the chapel, and this is divided into three compartments by two counterforts, which each terminate in a pinnacle. The interior of the chapel consists of nave and two aisles, with a chancel, or sanctuary, which is divided from the rest of the building by a large semicircular arch supported on Pennant columns. Over the chancel arch is a circular coloured window, consisting of a central light surrounded by ten smaller ones. The bays on either side are six in number, the arches springing from round iron columns, which have capitals, but no bases. The clearstory windows, which on one side number five, and on the other four, each consist of three lancet lights. At the back of the chancel, behind the pulpit, is a simple three-light window of tinted glass, with coloured borderings. Galleries are erected in the aisles and at the end over the entrance. Seating has been provided for 650; the seats are open, and of varnished pitch pine. The architects were Messrs. Wilson & Willcox; Mr. Bladwell contracted for the masonry; and the woodwork has been supplied by Mr. Rideout. The glazing, plastering, and tiling were contracted for by Mr. Backhouse.

Oldham.—The chief stone of a Primitive Methodist Chapel and Schools has been laid in Hensbaw-street. The chapel, when completed, will accommodate 1,000 persons, exclusive of the orchestra, the measurement being 29 yards in length, and 17½ yards in width. The school-room will hold 1,000 children. The measurement is to be 21 yards long by 13 yards wide. In connexion with the chapel there will be a minister's vestry and a choir vestry, and in connexion with the school an infant school-room, library, and seven other class-rooms. Mr. John Wild, of Oldham, is architect, and the different contracts have been let as follows:—Excavating work to Mr. J. Spencer; mason work to Messrs. Heywood & Son; brick-work to Mr. J. Partington; joiners' work to Mr. J. Dodd; flagging and slating to Mr. D. Jackson; plumbing and glazing to Messrs. Hulme, Brothers; plastering, Mr. R. Harris. The total amount of the tenders is 3,734*l.* 18s., which, with the architect's fees, would amount to upwards of 4,000*l.* The chapel will be built of bricks with stone dressings. The internal fittings are to be of pitch pine varnished. The whole of the seats both in the body of the chapel and in the gallery will be open benches with solid pitch pine bench-ends. The school has its principal front towards Henshaw-street. It is intended to heat both chapel and schools with hot air. The architect is Mr. John Wild, of Oldham. The entire cost of the buildings will be upwards of 4,000*l.*

PROVINCIAL NEWS.

Winchester.—A new Town Hall and city offices are about to be erected in Winchester, on the site where the Globe Inn now stands. It appears that only 13 out of the 24 members of the Council are in favour of the proposal, and the choice of the site is described as "a miserable sacrifice of the interests and future of the city to petty and personal interests and ward jealousies," as it is a situation in a decaying part of the borough from which trade and civic life have departed.

Sheffield.—The scheme for erecting a new building, in connexion with the Sheffield General Infirmary, for the treatment of severe surgical cases and contagious diseases arising therefrom, has been brought before a full meeting of the governors. Plans were submitted for a building which would contain 40 beds, to be placed on the western side of the present house, the cost being estimated by the architect at 7,000*l.* This, however, it was explained, must be looked upon as inadequate, and the effort must be to raise 10,000*l.* Subscriptions were promised in the room amounting to 3,000*l.*

Birmingham.—A new building for the National Provincial Bank has been erected at the corner of Bennett's-hill and Waterloo-street, at a cost of 15,000*l.* The premises stand partly upon the site of the old bank. Externally, the building is of Wrexham stone. The windows, nine in number, have been fitted with wrought-iron grilles. The bank is entered by an open vestibule at the corner of Bennett's-hill, the roof of which is carved with four sculptured groups, representing the principal industries of the town, viz., the small-arms trade, iron and glass working and iron moulding. Upon the floor of the vestibule is a star, designed in slate, marble, granite, and stone, with a garter of white marble in the centre, bearing the title of the bank. The banking-room is 70 ft. by 32 ft., and the floor, together with the lobby, is paved with Minton's encaustic designs. Pilasters of Devonshire marble, with decorative capitals, separate the windows; and from the ceiling, which is divided into ornamental panels, hang three gas pendants. The wood fittings,—counters, desks, &c.,—are of polished mahogany. The rooms, or safes, for holding securities, bullion, and books, are fire and burglar proof. For heating the building, Phipson's hot-water principle has been adopted. The bank was designed by Mr. J. Gibson, of London, and was built by Messrs. W. & J. Webb, of Birmingham. Bank extension just now seems to be the rage in Birmingham. The National Provincial makes the third new bank opened in the town within a year; and another, Lloyd's, is in course of erection in Ann-street.

Books Received.

"SECOND Annual Report of the Edinburgh Association for Improving the Condition of the Poor, 1869-70. Office, 69, Hanover-street."—The objects of this association are excellent. They relate to the poor, but not to the paupers. They seek to achieve these objects by a thorough, systematic, and sustained house-to-house visitation by effective volunteers; a thorough investigation of every application for aid; giving what is most needed when it is most needed, and for as long as it is needed; and endeavouring to establish among the legal and voluntary charities some system by which, either by a common register or otherwise, they should be prevented from overlapping each other. Amongst the special objects in view are the removal of physical as well as moral nuisances from the abodes and neighbourhoods of the poor; the endeavour to procure employment for those out of work; and generally to improve the temporal condition and physical well-being of the poor; foster habits of temperance, economy, and cleanliness; discourage mendicancy and idleness; and encourage the education of the young. The association has made a successful beginning, and it is now in its second year of action. It is very influentially patronised and managed.——"The Government of London: Speech of Mr. William Newton at the Metropolitan Board of Works on the Municipal Government of the Metropolis." Mr. Newton here discusses the present and prospective state of the metropolitan municipal government both in the City and out of it. He is of opinion that the Metropolitan Board are justified in going to Parliament and asking that the Board may be transformed into a greater municipal authority, be invested with greater power, and bear a name in better keeping with municipal authority,—a name which would put it out of any one's power to say that it was formed for the construction of works only.

"The municipal council of London [he remarks] would be a great power when invested with municipal powers and authority, with control over the whole of the metropolis in all things which concern the metropolis alike, and leaving to the district boards those matters which more properly belong to them, and to the City of London the possession of its own charters, so long as they relate to the City, and do not trench on any other portion of London. Let it have its pageants still, and let it enjoy its festivities as before; but do not let it exercise authority over any portion of the metropolis outside its own boundary: the whole of its authorities in that respect must be vested in the municipal council. If that were so, you may leave the vestries and district boards to themselves; you may make some modifications, that is, where districts are too small; but let the merely local government take the form it now occupies. . . . It would be no unworthy ambition to aspire to be a member of a council governing a population as large as that which inhabited all England at the time when Elizabeth sat upon the throne."

——"Report of the Council of the Camden Society." This report was read at the general meeting of the Camden Society on May 2nd. It gives an account of the books printed by the Society last year, and of those they propose to print during the current year. The council announce that the General Index to the first hundred volumes of the Society's publications, by Mr. Gough, is about half done, and is steadily progressing. The Society will probably print some of those many historical documents which the new Government Commission are discovering, though others may be printed by the Government.

Miscellanea.

A New Church for Rochdale.—The corner-stone of St. Edmund's Church, Falinge, erected solely at the expense of Mr. Albert H. Royds, at a cost of 10,000*l.*, has been laid. The ceremony was performed with Masonic honours. Mr. Royds is a P.G.M. of Worcester and a D.P.G.M. of East Lancashire, and the Masons in the district, appreciating his munificence, took advantage of the occasion to muster in very large force. The church will be well situate, on a plot of land between the Spotland and Falinge roads. The edifice will be cruciform in plan, having a massive central tower, with lanthorn and angle-turret; a nave and chancel (on the south side of which is the Founder's Chapel, and on the north side the vestry) and a western porch. Accommodation will be provided for about 750 persons. There will be a circular staircase, with a conical roof, leading to the small western gallery. The style will be decorated Gothic. The east window, of five lights, is to be filled, as are also many of the other windows, with richly stained glass. The western façade will contain a large rose-window. The side windows will be traceried. The two principal entrances will be in the south transept and at the west end of the church. The arches supporting the tower inside will be carried upon massive granite columns. The church will be built throughout of Yorkshire stone. The organ will be placed at the end of the south transept, the organist and choir being seated in the body of the church. The seats will be open benches. The church will be decorated, both externally and internally, with various Masonic symbols. The contract has been taken by Messrs. Ellis & Hinchliffe, and Messrs. Medland & Henry Taylor, of Manchester, are the architects.

Shocking!—Sir: An interesting lecture on "Electricity: its Progress and Future," was delivered in Chiswick school-room. The audience were requested to join hands: at this moment an *employé* of the Duke of Devonshire entered, accompanied with a large Newfoundland dog. He had him by the ear: we were positively electrified; the dog also. It doubled him up; howling and contortions denoted acute pain. The lecturer availed himself of this incident, and informed us if the man had held a small bird, a fly, or an insect, the shock would have killed it. Mr. Editor, cannot this be applied to useful purposes?—to destroy *ticks*, which burrow in the body of sheep; to kill the vermin which cling to hop-bine; to rouse out destructive little quadrupeds in corn-ricks? If applied to modern third-class houses, erected at — per dozen (one in for cash), and warranted not to stand anybody's use or abuse long, a test-shock might liken many in fate to *Jericho's walls*. The police could press a coil against violent prisoners to render them powerless. I hope to recur to this shocking subject shortly. We were delighted with the entertainment; only one dissentient—the dog.—R. T.

Glasgow: a Suggestion.—The removal of the University to its new site, on Gilmore-hill is now in active progress. The halls of the new museum are not nearly ready, but temporary accommodation has been provided in some of the adjacent apartments. In connexion with this subject a correspondent points out that an excellent opportunity now exists for opening up a new street in a direct line from the Union Railway Terminus (the old College Green) on the one hand, and the Glasgow Green and river Clyde on the other, intersecting the Gallowgate, by the present St. Mungo street. Very little property would need to be demolished, we are informed; and such new thoroughfares are always desirable in a crowded city like Glasgow. The suggestion, at all events, may be worthy of consideration by the City Improvement Trust.

America's Greatest Engineering Work.—The proposed suspension-bridge over the Hudson River, near New York, will extend across the river from Fort Clinton, on the west side, to Anthony's Nose on the east, with one clear span of 1,600 ft., and an elevation of 155 ft. above high-water mark. The total length of the bridge, including approaches, will be about 2,500 ft., The entire structure will be composed of steel combination truss and cable work, of great strength and graceful appearance. There will be four systems of twenty cables deeply rooted in the rock and abutments of the towers on either side of the river. Each cable will be about 14 in. in diameter, interlaced and secured by innumerable smaller cables, and will contain altogether 371,165,750 ft., or 70,302 miles of steel wire. The estimated weight of the iron and steel in the bridge will be about 17,000 tons, and the total suspended weight 9,651 tons. For the towers and approaches, 59,084 square yards of solid masonry will be required. It is believed that the bridge, when completed, will be able to sustain the aggregate weight of sixty locomotives, or more than six times the weight that can ever be crowded upon it at one time. The estimated cost of the work has not yet been announced.

Opening of the New Street at Whitechapel.—This new street was formally opened to the public on Saturday in last week by the chairman and representatives of the Metropolitan Board of Works, under whose guidance and responsibility the work has been carried out. The street, which is only 400 yards in length, but has been constructed at a total estimated cost of 243,000*l.*, including the cost of compensations and purchases of property, connects Whitechapel High-street with Commercial-road, in line with the latter, affording on the one hand clear access to the City, and on the other hand a direct and continuous line of thoroughfare to the East India Docks. It supersedes the narrow and tortuous channel of Church-lane. At Whitechapel, as at Holborn, the engineer of the Metropolitan Board of Works (Mr. Bazalgette) has had to clear the way for the new thoroughfare by cutting through blocks of old houses. The carriage-way is paved with granite, laid upon concrete; and beneath it, along the centre of the street, there is an arched subway of brickwork for the accommodation of the gas and water pipes. The contractor was Mr. J. G. B. Marshall, of Whitechapel.

The Proposed Abattoir at Bolton Bridge, Bradford.—At a meeting of the Bradford Abattoir Company, the plans of Messrs. Taylor & Garthwaite, architects, sent in for competition under the motto "Economy," were selected by a large majority, and instructions were given to the architects to prepare the contract drawings as soon as possible. The plan of the building proposed is of a plain and simple character. The basement floor of the building is to be elevated by sleeper walls, 4 ft. above the ground, to keep out the flood water of the Bradford Beck. The drainage is to be entirely outside of the building, and is to pass through a filter bed previously to being ejected into the beck, in such a manner as to secure the solid sewage for sale as manure, and at the same time to avoid fouling the beck. The whole of the abattoir buildings are to be executed with stone exteriors, coursed and pointed, the interior to be executed in hard, calcined, pressed bricks, walled in as close together as possible. The approximate estimate of the cost of erecting the whole buildings is as follows: — Abattoir, 3,100*l.*; hanging sheds, 900*l.*; hotel, 1,150*l.*; stabling and shed, 150*l.*— total, 5,300*l.*

Hamilton-place and Park-lane.—In reply to Mr. Denison, in the House of Commons, Sir W. Tite believed the Metropolitan Board had not lost a moment in giving effect to the Act referred to. It was intended to cut a road 60 ft. wide, which would lead out into Park-place, the present road being 35 ft. only. It was intended to take down Sir Edward Kerrison's house and the stables at the back, as well as two other houses, so that the road would be 60ft. wide throughout, and in some portions 65ft. They were under great obligations to the Marquis of Conyngham, for though a portion of the road was cut through his garden, no objection had been offered, the noble owner regarding the matter as a public improvement. They were not to interfere with the garden at the end of Hamilton-place until after August, when the trees and shrubs could be removed without injury.

Liberality and Public Spirit.—These are happily now-a-days no rarity. We have to report several recent instances. The Duke of Norfolk, who lately made several liberal donations to Sheffield institutions, has intimated his intention to subscribe 1,000*l.* towards the cost of a new orphanage and industrial school between Worral and Oughtibridge, which is being erected by the Roman Catholics of this town and district. It will be remembered that last year Mr. Robert Barnes, of Manchester, presented 10,000*l.* to the Manchester Infirmary to form the purchase-money of Cheadle Hall and grounds for the purpose of a Convalescent Home. The same gentleman has just sent to the medical superintendent of the home a cheque for 16,000*l.*, which will enable the trustees to erect a new and more suitable building. Mr. and Mrs. Platt, of Dunham Hall, have presented public baths to the people of Stalybridge. The cost of this considerate gift is 6,000*l.* Mr. A. H. Royds, as elsewhere noticed, has undertaken to defray the whole cost of a new church at Falinge, near Rochester, estimated at no less than 10,000*l.*

Proposed Breakwater at Hunstanton, Lynn.—There is in course of construction on the shore at this place, adjacent to the newly-opened pier, a specimen length (50 yards) of a very simple, but it is said very effective, breakwater, designed by Mr. Jackson, of St. Leonard's-on-the-Sea, and constructed by Messrs. Aickman & Spurr, ironfounders, Lynn. It consists of a kind of cellular wall or thick lattice of cast iron, fixed to piles driven into the sand, and rising two or three feet only. Notwithstanding this apparent insignificance of height, it is stated to be capable of completely breaking the force of the waves, while allowing the free passage of the water, but causing the sand and shingle to accumulate on the land side, so as to form a protection to the shore and to the base of the cliff, which is much needed. Mr. Jackson has also invented an extension of the device, by which it may be formed into a pier and promenade, and furnished with contrivances for bathing in the open sea in perfect safety, and quite out of sight of the shore.

Mechanics' Institute, Margate.—On the movement of the Margate Branch of the Amalgamated Society of Carpenters and Joiners, a Mechanics' Institute will be probably obtained for Margate. At the close of the Friendly Society's conference, a meeting of the members of the proposed "Mechanics'" Institution was held. Mr. M. H. Judge was elected Honorary Secretary, and it was resolved:—"That the Hon. Sec. do call another meeting of the members for the further election of officers, and to decide as to the opening of the Institution; such meeting not to be called within three weeks of this date." The members present generally expressed themselves to the effect that by the commencement of next winter, a very good institution might be opened, if all would assist to their utmost in advocating its claims to support among their friends and neighbours.

The Oxford Architectural Society.—The members of this society had their first excursion for the season on Saturday last, the president of Trinity, who is also president of this society, accompanying the party. Islip was the first place visited. The old church was examined, and its architectural and historical features pointed out by Mr. Bruton. Thence the party proceeded to Oddington Church, where they were met by the incumbent, the Rev. G. Petch, and here again Mr. Bruton pointed out the most interesting features of the edifice. From Oddington, Charlton-on-Otmoor is only about a mile distant, and on visiting this church Mr. H. Maxwell-Lyte pointed out its chief features.

New Town-hall for Spennymoor, near Darlington.—Resolutions have been adopted for the erection of a Town-hall, adjoining the New Market, at Spennymoor. Mr. R. Duncombe Shafto, of Whitworth Park, has offered 100*l.*, and the difference has been made up in shares of 5*l.* each. The hall will be 70 ft. in length, and 34 ft. in breadth, and will be fitted up for lectures, concerts, balls, &c. There will also be two entrances, ante-rooms, and requisite conveniences. A provisional committee has been appointed to carry the matter into effect.

Mangold Cake.—The letter on this subject, from Mr. Hugh Smith, has led to many inquiries, especially as to the mode of preparing the cake. The writer being applied to, reminds us that it is a patented process.

Something New (?) for the Polytechnic.—At a *conversazione* in Plymouth, Mr. J. N. Hearder, F.C.S., exhibited an electric apparatus of enormous power which he had made for a scientific amateur, and called an electric fulgurator. By means of this machine he could produce sparks 3 ft. 6 in. long, and under certain circumstances even 9 ft. or 10 ft.; even 15 ft. to 20 ft. might be attained. The sparks are zig zag, like lightning, and manifest themselves with a loud report. The principle is not new, although the scale is; Mr. Hearder having himself made one forty years ago. Could not localities be ozonised by means of the wholesome lightning thus got up in close seasons?

The Naples International Exhibition.—All who are interested in the forthcoming Naples Maritime Exhibition will be glad to hear that the indefatigable author and antiquary, Colonel Giuseppe Novi, has prepared for the use and instruction of visitors an illustrated descriptive work, which will materially assist them, and doubtless bring Col. Novi the credit he deserves. The journal may be obtained at the office of publication in Naples, 109, Strada Mergellina. We may add concerning this exhibition that the Italian Government will despatch to England a transport in June next, for the purpose of conveying to Naples, free of all charge, the objects selected for exhibition.

Quashing a Gift of £5,000.—Vice-Chancellor Malins has decided against the legality of the gift by Miss de Lancy, of 5,000*l.*, for the erection of a fever hospital for Cheltenham. Miss de Lancy was very advanced in years, and shortly before she died she handed to her physician a cheque for 5,000*l.* for the purpose stated, which sum he held in trust. The Vice-Chancellor said the gift stood in the same position as if it had been a bequest by will, and the object of the Statute of Mortmain was expressed by the preamble to be, to prevent gifts for charitable purposes by dying or languishing persons. Three out of the four interested under the will raised no objection, it is said, to the gift.

The Archæological Societies.—The Congress of the British Archæological Association will be held this year in Hereford, the first week of September. Mr. Wren Hoskyns will preside. The Archæological Institute will hold its meeting at Leicester at the end of July next, under the presidency of the Lord Talbot de Malahide. The chief objects of interest in the town of Leicester will be its Mediæval churches, the Norman Hall of its ancient castle, the "Newarke" of the castle, numerous Roman pavements, one being *in situ*, and the noted mass of Roman masonry called the "Jewry Wall."

The Globe Theatre.—Mr. Herman Vezin is one of our best actors, and the "Man o' Airlie" affords him his best part. It is one of those personations that, once seen, remain fixed upon the memory, a thing complete, and of itself. The part requires considerable versatility,—humour, and pathos, youthfulness and old age are involved,—but Mr. Vezin is equal to all its requirements, and gives every phase with equal effect. The other characters are supported very satisfactorily; and in the burlesque on "Robert Macaire," that follows, Miss Fanny Josephs, the manager, is bright and sparkling, and Mr. J. Clarke frightfully funny.

Supposed Subsidence of Soil at Lynn.—It appears from recent observation that, owing to the Norfolk Estuary Works and other improvements in the main drainage of this district, the bed of the river is being continually lowered, and the fleets and streams running into it are following suit, so that the whole of the property adjacent to them indicates symptoms of settlement. The heavy "false front" of the Corn Exchange has for some years past been supposed to be settling outward, away from the building; but it is now suggested that the building is rather sliding away from its front towards the river.

The Free Church of England Movement.—The foundation stone of a Gothic structure in connexion with this movement, will be laid in the course of the ensuing month, at Barn's-green, near Horsham, where a gentleman has succeeded to an estate belonging to Sir Percy Shelley, and given a freehold site. The individual referred to at present resides at Plaistow, where it is intended to erect another similar church. Mr. Pepper's contract (of Bedford), has been accepted.

Discovery of Roman Altars.—Recently Mr. Humphrey Senhouse dug up in a field at Netherhall, Maryport, thirteen Roman altars. These altars are said to have been raised by the prefects or tribunes who commanded the Roman legions which were at one time encamped at Maryport. These troops are generally described as Spaniards. From one of the stones it is inferred that a regiment of volunteers had been attached to the Roman camp at Maryport, and the inscription upon it is believed by Dr. Bruce, of Newcastle, who has examined the remains, to be unique in England.

Iron and Steel Institute.—This institution, which was established last year at Middlesbrough, and now numbers 350 members, opened its annual meeting last week, at the Westminster Palace Hotel, under the presidency of Mr. J. Bell. Various papers were read. In the evening a *conversazione* took place in the same building, at which interesting models of machinery for the working of iron and steel were exhibited. On another day the members proceeded by special steamer to visit Chatham Dockyard, and the Gun Factory and Arsenal at Woolwich.

Royal Architectural Museum. — On Saturday last a party from the Working Men's Club and Institute Union visited the Museum under the guidance of Mr. E. Hall. Mr. G. G. Scott, R.A., Mr. Wallis, the Curator, and others, were present to furnish information. Sir Bartle Frere will lecture on Wednesday, the 25th, as already mentioned, on "Modern Architecture in Western India." We are glad to hear it is intended to open the Museum on certain evenings in the week, which will shortly be advertised. The numbers attending the Architectural Art Classes are encouraging.

Progress in the East.—The deep impression produced upon the Sultan's mind by his visit to the West appears in a sensible speech of his while on a visit to the Sublime Porte, when he spoke of the necessity for progress, commercial, manufacturing, and agricultural; and announced his intention to have plans and specifications prepared by engineers for a general system of railways and roads throughout his extensive empire. The improvement of navigable rivers and harbours was also specially referred to.

The late Mr. J. S. Mulvany, Architect. Mr. Mulvany, whose recent death at the age of fifty-seven, we have just now heard of, was a pupil of the late Mr. W. Deane Butler, and son of the painter, the late T. J. Mulvany. Mr. J. S. Mulvany erected a large number of buildings, especially club-houses and residences. The Broadstone, Galway, and Kingstown Termini, and the Royal Irish Yacht Club-house, at Kingstown, are good evidences of his skill.

Omnibuses and Tramways.—Vice-Chancellor Malins gave judgment on Monday last in the suit of the Liverpool Tramways Company against the Omnibus Company of the same town. The Act permitted vehicles with ordinary wheels to use the tramways, but as it was alleged that the Omnibus Company had altered the gauge of their conveyances in order to suit the rails, the Tramways Company applied for an injunction, and it was granted by the Vice-Chancellor.

Outrage at Oxford.—The library at Christ Church, Oxford, has been forcibly entered from the windows by some foolish and evil persons, who removed the statues of Dean Gaisford and other notabilities which adorn the interior of the building, and, having conveyed them into Peckwater Quadrangle, a bonfire built of faggots and doormats was kindled, and the statues, being placed in the middle, were completely destroyed.

Opening of the New Hall, Inner Temple. We learn from the daily newspapers that Mr. Smirke's Gothic hall, for the Templars, of which we gave interior and exterior views and plan, on January 8th, 1870, was opened on Saturday last, by her Royal Highness the Princess Louise, accompanied by Prince Christian, and in the presence of the Masters of the Bench and other members of the Inn.

St. Luke's Parochial Schools.—The chief stone of the new schools for St. Luke's parish, London, has been laid. The site of the new schools is in Old-street, almost opposite the St. Luke's Hospital. The building is to be in the Gothic style. The architect appointed is Mr. Tover, and the contractor is Mr. Henshaw. The estimated cost is 4,000*l*.

Crystal Palace Baths Company.—A new limited company is being formed, with a capital of 12,000*l*., in 2,400 shares of 5*l*. each. The company purposes providing visitors to the Crystal Palace, and inhabitants of the neighbourhood, with swimming and hot baths, to be erected on an acquired site abutting on the Thicket-road.

The Roman Circus in Paris.—An interview is understood to have taken place between M. Chevreau and the Minister of Fine Arts, at which the resolution is said to have been come to that these interesting relics should be purchased, the nation and the city each supplying the sum of 600,000 francs.

Drinking Fountain, Guilford-street.—A new public fountain is in course of erection exactly opposite the Foundling Hospital, Guilford-street. It includes a female figure pouring water from a pitcher. It will be opened in the course of a few days.

International Exhibition of 1871.—A prize of 40*l*. (1,000 francs) will be given by her Majesty the Queen for the best fan exhibited next year, painted or sculptured by a female artist of any nation, and under twenty-five years of age.

King Robert the Bruce.—It is proposed to erect a monument to Bruce on the field of Bannockburn. An influential committee has been formed in London and in Scotland, who are obtaining a design from the artistic veteran, Mr. George Cruikshank.

St. Paul's Cathedral.—We are glad to hear that a conference has been held with reference to the completion of the cathedral, and a sub-committee has been appointed to prepare and circulate a public statement.

Portraits.—The head we give in our present number was drawn from a photograph produced by Mr. John Watkins. The successful likeness we recently published of Mr. Beresford Hope was from a photograph produced by the same good hand. The drawings were made by Mr. T. Scott, and were engraved by Mr. John Knight; both these gentlemen have made a character in their speciality.

TENDERS.

For taking down part and rebuilding Railway Inn at Feltham, for Messrs. Farnells and Watson. Messrs. Walker & Elsam, architects, who supplied quantities:—

Hiscock	£737 15 0
Gibson Brothers	642 0 0
Lodge	630 0 0

For alterations to four houses on Royal-hill, Greenwich, for Mr E. Shalless. Mr. Henry Roberts, architect:—

Fenn	£1,059 16 0
Ware	976 15 0
Hammond	885 0 0
Todd (accepted)	845 0 0

For alterations to bar, &c., at the Castle Inn, Eltham, for Mr. Edward Coppinger. Mr. Henry Roberts, architect:—

Todd	£215 0 0
Theobald (accepted)	180 0 0

For works at Orton Longueville, Peterborough, for the Marquis of Huntly. Mr. George Truefitt, architect:—

Vine (accepted)	£1,076 0 0

For new offices, Market Place, Reading, for Messrs. Sutton & Sons. Messrs. W. & J. T. Brown, architects:—

Woodruffe	£1,389 0 0
Sheppard	1,367 0 0
Matthews (accepted)	1,355 0 0

For alterations and additions to mansion at Duffryn (first contract), for the Right Hon. H. A. Bruce, M.P. Messrs. W. G. Habershon & Pite, architects:—

Price	£4,850 0 0
Baker	4,307 0 0
Lewis & Sons	3,997 0 0
Bolt & Co.	3,695 0 0
Beaven & Son	3,454 0 0
Stride	3,400 0 0

For farm buildings at Buckland, Herts. Mr. W. Watson, architect:—

Gimson	£1,238 0 0
Gibbons	1,189 0 0
Ansell	1,037 0 0

For farm buildings at Therfield, Herts. Mr. W. Watson, architect:—

Gibbons	£358 0 0
Gimson	356 0 0
Ansell	321 0 0
Preston	294 0 0

For building a pair of houses in Bridge-street, Leatherhead, for Mr. A. Lipscomb. Mr. F. J. Dibble, architect:—

Hamblin	£1,510 0 0
Batchelar	1,449 0 0
Putney	1,198 0 0
Taylor & Clear	1,090 0 0

For house at Croydon, for Mr. H. McKean. Mr. Richard Martin, architect. Quantities supplied by Mr. J. A. Bunker:—

J. & A. Wright	£2,345 15 0
Hyde	2,339 0 0
Turner & Sons	2,289 0 0
Jarrett	2,238 0 0
Pollard	2,232 0 0
Chappell	2,200 0 0
Hearle	2,145 0 0
Ward	1,995 0 0

For two detached houses at Caterham, for Mr. John Glenny. Mr. R. Martin, architect. Quantities not supplied:—

Ward (accepted)	£1,730 0 0

For detached house at Kenley, for Mr. Young. Mr. Richard Martin, architect:—

Ward (accepted)	£800 0 0

For school-room in the Brighton-road, Redhill, Surrey. Mr. John R. Collett, architect:—

	School-room.		Fittings.
Worsfold	£423 16 0		
Hall	407 15 0	...	£34 10 0
Osborn	398 0 0	...	23 10 6
Hooper	375 0 0	...	48 0 0

For alterations at No. 23, Finsbury Circus, E.C. Messrs. J. Tarring & Son, architects:—

Bishop	£446 0 0
Heeps	380 0 0
Shurmur	370 0 0
Snowdon	342 0 0

For main drainage and other works, at Hurstpierpoint, Sussex. Mr. B. H. Nunn, Surveyor. Quantities supplied:—

Cole	£3,581 5 7
Harris	3,159 0 0
Crockett	3,155 0 0
Symonds	3,086 0 0
Ford	3,022 7 11
Cheesman & Co.	3,020 0 0
Blackmore	2,999 0 0
Bloomfield	2,995 0 0
Hayward	2,820 0 0
Goodair	2,757 0 0
Young	2,750 0 0
Vickers & Crane	2,747 0 0
Woodcock	2,644 0 0

For warehouses, &c., at Rugeley, for Mr. Swainston Adamson. Messrs. R. Scrivener & Son, architects, Hanley. Quantities supplied:—

Daken	£1,757 0 0
Whittome	1,539 0 0
Inskip	1,519 0 0
Trow & Sons	1,500 0 0
J. & H. Brown	1,450 0 0
Bowden	1,400 0 0
Barlow	1,390 0 0

For china works at Hanley, for Mr. Charles Ford. Messrs. R. Scrivener & Son, architects. Quantities supplied:—

Harvey	£3,891 0 0
Inskip	3,860 0 0
Wooldridge	3,795 0 0
Bowden	3,733 0 0
Bailey	3,695 0 0
Collis & Hudson	3,659 0 0
Bennett & Cooke	3,475 0 0
Barlow	3,395 0 0

For twenty cottages to be erected at Roehampton, Surrey, for Earl Spencer. Messrs. Beeston, Son, & Brereton, architects:—

Easton Brothers	£3,928 0 0
Beckey & Holmes	3,691 0 0
Wigmore	3,599 10 0
Aviss & Co. (accepted)	3,540 0 0

For carpenter and joiner's, and ironmonger's work at the New Town Hall and Markets, Abergavenny:—

Wolt & Co.	£2,180 0 0
Foster Brothers	2,125 0 0
Eassie & Co.	2,060 0 0
Moreland (accepted)	1,950 0 0

[The former contractor having contracted for the whole and failed, the Commissioners are carrying on the masonry themselves. The contract for the whole was, in the first instance, 7,200*l*.]

For the Countess of Huntingdon's Chapel, North-street, Brighton. Mr. John Wimble, architect. Quantities by Mr. W. E. Stoner and Mr. Lansdown:—

Bruton	£6,079 0 0
Anscombe	5,930 0 0
Cheesman & Co.	5,854 0 0
Newman & Mann	5,476 0 0
Dove Brothers	5,195 0 0
Nightingale	5,167 0 0
Willicombe & Oakley	5,050 0 0
Sharpington & Cole	4,854 0 0
Kilby	4,806 0 0
Sawyer	4,720 0 0
Chappell	4,667 0 0
Myers & Sons (accepted)	4,428 0 0

For the Walsall Improvement Commission roads and sewers. Mr. Boys, Borough Surveyor:—

Chamberlain	£626 4 0
Osborne	447 0 0
Hughes	443 0 0
Penke & Hurley (accepted)	419 15 0

For two houses and shops, near Woking Station, Surrey. Mr. Henry Peak, architect:—

Mason	£691 10 0
Patrick	690 0 0
Pollard & Son	684 3 7
Dickinson	682 1 8
Whitburn	660 0 0
West	625 0 0
Harris (accepted)	615 0 0

For the erection of Congregational church and lecture-room at Marsh-street, Walthamstow. Messrs. J. Tarring & Son, architects:—

Pritchard	£4,918	0	0
Hill, Keddell, & Waldram	4,693	0	0
Scrivener & White	4,553	0	0
Patman & Fotheringham	4,331	0	0
Shepherd	4,237	0	0
Browne & Robinson	4,147	0	0
Shurmur	4,094	0	0
Killby	4,067	0	0
Henshaw	4,040	0	0
Bishop	3,997	0	0

TO CORRESPONDENTS.

Models.—Having a difficult roof to construct, I am anxious to make a model of the same. Perhaps one of your correspondents will be kind enough to inform me of the best article or composition for the purpose that can be worked with a penknife.—E. M. S.

H.—L. H.—H. H. S.—A. B. A.—T. L. C.—T. B. & Co.—R. P.—R. M.—M. H. J.—R. L. P.—T. H. L.—F.—H. & Co.—D.—F. C.—Poverty.—Julius.—T. R. D.—M. H. J.—C. J. R.—H. P.—W. B.—B. H. N.—S. & Son.—R. & B.—X. Y. Z. (Portland cement concrete, coated with Portland cement, has been successfully employed for the formation of malt-kiln floors).—J. R. (we shall be glad to hear further).—T. E. W. (shall appear).—J. P. (shall appear).—R. S. (shall appear).—J. P. (in type).—R. S. G. (depends on terms of contract).—H. B. S. (will find an official statement as to the Halifax Building Society's Competition in our last).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of Tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

ADVERTISEMENTS.

TOWNS DRAINAGE and SEWAGE UTILIZATION COMPANY.

CHAIRMAN—Sir William Wiseman, Bart. K.C.B.
ACTING ENGINEER—Mr. Bailey Denton, Whitehall-place.

This Company prepares plans, specifications, &c. and reports on plans already prepared; supplies the funds necessary for the execution of the works, and if required, undertakes the execution of such works. The Company also undertakes to purchase lands for the reception of sewage.—Particulars obtained of Messrs. Bailey Denton, Son, & North, Whitehall-place; or of Mr. HENRY DUDLEY COOPER, Secretary, No. 41, Parliament-street, S.W.

RED HILL.—Excellent opening for a Builder or Contractor, or Others, requiring trade premises near a railway. Capital premises, erected for a builder, comprising timber store, with joiner's shop for 15 benches over, stable yard and premises, capital residence, with 9 parlours, 4 bedrooms, counting-house, and good offices, and two cottages. The property abuts on the Brighton Railway, from which a siding could be easily obtained, and is approached from the Brighton-road, about half a mile from two railway-stations. It is in hand, and would produce 100*l.* a year.

MR. JOHN LEES is instructed to SELL by AUCTION at the Mart, Tokenhouse-yard London, on THURSDAY, MAY 26th, at TWELVE o'clock, this capital PROPERTY, held for about 97 years, at a small reserved rent. A considerable part of the purchase-money may remain on mortgage.—Particulars may be had of Messrs. MORRIS, STONE, LOWNDES, & MORRIS, Solicitors, 5, Finsbury-circus, London; of Mr. M. REGIS, Sen. Redhill; and of Mr. JOHN LEES, Auctioneer and Estate Agent, Reigate, Surrey.

To Builders, Contractors, and Others.—HORSHAM BRICKFIELD, UPCHURCH, Kent.

MESSRS. JACKSON & BASSETT will SELL by AUCTION, on the Premises above stated, on MONDAY, MAY 23rd, 1870, at ELEVEN for TWELVE o'clock at noon, about 500,000 excellent quality BRICKS, comprising stocks, pinkings, and place, bolted in convenient lots. Also immediately after the Sale of the above-named Bricks, on land near to the said brickfield, about 8 acres of FLINTS, not dug, in convenient lots. The bricks are near to the London, Chatham, and Dover Railway Station at Rainham, and also, with the flints, near to water carriage.—Particulars, &c. of the Auctioneers Sittingbourne.

EPSOM.—Very eligible Freehold Building or Accommodation Land close to the town, with frontages to the Banstead and College Roads, within a few minutes' walk of railway stations in direct communication with the metropolis.

MESSRS. BEADEL are instructed to SELL by AUCTION, at the MART, Token-house-yard, London, on TUESDAY, the 31st day of MAY, at TWELVE for ONE o'clock, several PLOTS of FREEHOLD LAND, most desirably situate for building purposes, containing about 12 acres, at present in a high state of cultivation as market garden ground. The land has considerable frontage, and from its proximity to the favourite town of Epsom is certain to be in demand for building purposes, and forms a good security for the investment of capital.—Particulars, with plans and conditions of Sale, may be obtained of Messrs. WORDSWORTH, BLAKE, & HARRIS, Solicitors, South Sea-house, Threadneedle-street; of Mr. ALFRED SAVILL, 3, St. Helen's-place, E.C. at the Mart; and of Messrs. BEADEL, 95, Gresham-street, London.

WALWORTH-COMMON ESTATE IMPROVEMENTS.—Third Letting of Building Land, including 31 valuable Building Sites for Private Houses, Shops, Manufacturing Premises, and a corner Tavern, with the prospect, almost certain, of a transfer of licence from the old-established House known as the Hen and Chickens, which will be pulled down; the whole being most eligibly situated opposite to Surrey-square, and forming part of Alvey-street, Thurlow-street, South-street, and two new streets to be called Laville-road and Hopwood-street.

MESSRS. C. STUART BARKER & SON are favoured with instructions from the Governors and Guardians of St. Mary Newington, to LET a FURTHER PORTION of the WALWORTH COMMON ESTATE, at the ELEPHANT and CASTLE TAVERN, Newington-butts, on MONDAY, MAY 30th, 1870, at ONE for TWO o'clock precisely.—Conditions and plans may be obtained of JOSEPH BURGESS, Esq. Vestry Hall, Walworth; of Messrs. H. F. & E. CHESTER, Solicitors, 80, Newington-butts, S.E.; at the Elephant and Castle Tavern, Newington, S.E.; and of the Auctioneers, 37, King William-street, London Bridge, E.C., and 144, Walworth-road, S.E.

TO BE SOLD, pursuant to an order of the High Court of Chancery made in a cause of "Collingbourne v. Mackrell," with the approbation of the Vice Chancellor, Sir Richard Malins, to whose Court the said cause is attached, in three lots, by

MR. EDMUND ROBINS, the person appointed by the said Judge, at the AUCTION MART, Token-house-yard, in the City of London, on TUESDAY, the 24th day of MAY, 1870, at TWO o'clock in the afternoon precisely, eligible FREEHOLD BUILDING LAND (land tax redeemed), situate in Southfields, Wandsworth, in the county of Surrey, and offering choice and attractive sites for the erection of villa residences, comprised in three different plots of about half an acre each, and enjoying a large extent of frontage, with a proportionate depth. These plots abut on or immediately adjoin the Avenue, West-hill, Melrose, and other well-known roads, and are in every respect most desirably situate. Particulars, with plan, may be had (gratis) of Mr. NEVILL JOURDAIN, Solicitor, St. Paul's-chambers, 15, Paternoster-row, E.C.; of Messrs. PARKS & POLLOCK, Solicitors, 63, Lincoln's-inn-fields, W.C.; of Messrs. LETHBRIDGE & SON, Solicitors, 25, Abingdon-street, Westminster, S.W.; at the Mart; and of Mr. ROBINS, 5, Waterloo-place, Pall-mall, S.W.

FRED. KEB. EDWARDS, Chief Clerk.

Dated this 5th day of May, 1870.

CALEDONIAN-ROAD, BRIDGE WHARF.—Wharfinger's and Coal Merchant's Stock, Horses, Vans, Canal Boats, Barge, Harness, &c.—TO BE SOLD by AUCTION, by

MR. J. S. GOWER, on the PREMISES, as above, WEDNESDAY, MAY 25th, 1870, at ONE o'clock, the property of Messrs. Fulton & Co. who are relinquishing the Canal Wharf Trade, 10 CART and VAN HORSES, nine 4 and 2 ton coal vans, trolly, town and spring carts, pony dennetts, two 30-ton canal boats, 65-ton open barge weighing machine, van, cart, pair-plated chaise, and pony harness, pair of powerful horses, trolly and harness, on a good contract to a well-known firm.—On view two days prior. Catalogues on the Premises; and of the Auctioneer, at his Repository, Barbican.

THURSDAY next.—ASHFORD, Middlesex, on the Windsor line, South-Western Railway.—Eligible Freehold Land, suitable for building sites, having frontages to the very fine main road between Staines and Ashford, about a mile from each of these stations, near to Ashford village and church, and about two miles from Sunbury Station. The estate has a registered indefeasible title, and is free from tithe and land tax.

MESSRS. DEBENHAM, TEWSON, & FARMER will SELL, at the MART, on THURSDAY next, MAY 26th, at TWO o'clock, about 24 acres of valuable FREEHOLD BUILDING LAND, having important frontages to the Staines-road and the new road leading to Ashford station, viz. 10 lots, varying from an acre to an acre and a half each (one lot), suitable for a good public-house, the others for villas, and a nearly square plot of about 12½ acres, having a frontage of 685 feet to the new road, and forming a very desirable site for large residences or for a public school or institution. The lots lie upon a solid bed of gravel, afford good facilities for drainage, and have a capital water supply. Conveyances will be given to purchasers free of charge, and three-fourths of the purchase-money may, if wished, remain on mortgage for a term of years at 5 per cent, but may be paid off at any time without notice.—Particulars of Messrs. FRANK RICHARDSON & SADLER, Solicitors, 28, Golden-square; and of the Auctioneers, 80, Cheapside.

GRAY'S-INN-ROAD.—To Builders, Carpenters, Pianoforte Makers, and Others.

MR. LEREW will SELL by Auction, on the PREMISES, Britannia-street, on MONDAY, MAY 23, at TWELVE, a quantity of PLANK, deals, and battens, flooring, 7,000 feet wide pine, 4,000 feet mahogany, lime, sycamore, and birch, 8,000 feet quartering, cut stuff, lath wood, 140 scaffold poles, 500 puttogs, 20 ladders, new doors, two light spring carts, show cases, &c.—Auction Offices, 2, Cardington-street, Hampstead-road, N.W.

No. 21, Munster-street, Regent's-park.—To Lead and Glass Merchants, Colourmen, and Others.—By Order of Mr. Leftwich, retiring.

MR. LEREW will SELL by AUCTION, on the above PREMISES, on THURSDAY, MAY 26 and following day, at TWELVE, the STOCK: comprising about 3 tons of Lead, Window-glass, Varnish, Whiting, Oils and Colours, Brass-work, Closet Basins, Colour Mill, Lathes, Diving Apparatus, Air and other Pumps, Jib Crane, 2 Screw Presses, and an infinity of articles appertaining to the trade. Phaeton Cart, 2 Horses, a few Lots of Furniture, sundries, &c.—Auction Offices, Cardington-street, Hampstead-road.

HACKNEY.—To Contractors, Builders, Carpenters, and Others.

MR. LEREW will SELL by AUCTION, on the PREMISES, Amhurst-road, Hackney, opposite the Milford Tavern, and near the Railway Station, on MONDAY, MAY 30th, at TWELVE for ONE o'clock, the PLANT and STOCK of a BUILDER: comprising scaffold poles, board and cords, puttogs, ladders, wheels, blocks, falls, windlass, mortising machine, 1,000 yellow planks, deals and battens, 20,000 feet quartering, dry-cut stuff, mahogany, two sheds, counting-house, saw-pit, ten benches, iron railings, and other useful stock.—May be viewed, and catalogues had on the Premises; and of the Auctioneer, 2, Cardington-street, Hampstead-road.

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JOHN POLLARD, Clerk of the Board.

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AS CLERK of WORKS or GENERAL FOREMAN, by a thoroughly experienced and qualified Man. Good references.—Address, H. B. 45, Park-walk, Chelsea.

The Builder.

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The Value of the Study of Nature.

WHATEVER may be the exact character of that mysterious bond which connects man with those mute forms of animal life over which he exercises so unchecked a dominion,—whatever that community of intelligent nature in virtue of which he has trained the horse, and domesticated the dog,—no doubt can exist as to the important part which familiarity with the habits of animals bears in human education. Not, indeed, that this educational power is confined to the species of the animal kingdom alone. The childhood of mankind, whencesoever that golden age may have dated, was passed face to face with nature. The physical forces that give constant variety to the features of the wildest landscape, impressed their message on the imagination of the new-born race. The sunshine was, to those children who were fathers of men, the smile of Heaven. The storm uttered a voice of warning, of terror, or of protection. To this very hour the poet can only be reared in the cradle of nature.

The double world of life, the animal and vegetable kingdoms, teems with lessons fitted for a more advanced period of education. Industry was first taught by the culture of vegetable produce. To eat bread was the first inducement to human labour; so soon as a northward migration, from regions where the banana and the date-palm offer their untilled harvest to the dusky tribes had taken place, to those where, under more changeful seasons, the olive, the vine, and the cereals are indigenous, and where they wooed the hand of the cultivator. So long, and so harsh, has been the tyranny of what is called civilization, that the power of appreciating the beauty, as well as the wealth, of nature seems to have been crushed out of the greater number of the humbler tillers of the soil; and we might have been led to think that one of the chief characteristics of a delicate and poetic organisation, the passionate love of flowers, was peculiar to an educated, rather than to a natural state of society; were it not for the taste with which, at this very hour, the wild Indian women will deck their hair or their children with the scented, starlike, blossoms that gleam in the Southern forests.

Of the million of little children who are alive at this moment in London, how many thousands have never seen a wood or a lawn? How many not even a flower,—at least, as the glory of a living growing plant? How are the great utterances of nature stifled and smothered by dense walls of brick and mortar, before they can reach the ears of these birthrightless children of penury? "God Almighty," said one of the wisest of our race, "first planted a garden. And indeed it is the purest of humane pleasures. It is the greatest refreshment to the spirrit of man; without which buildings and pallaces are but grosse handy-works." What sense of beauty, what inspiration of hope, what presence of the softer and nobler emotions of humanity can be expected to spring up within the bosoms of men and women who have been reared, from an unlovely childhood, as exiles and aliens from the face of nature? What gracious influence can smile on a squalid infancy, of which the only dismal playground is bounded by the wall and the gutter, in which the earth they tread is divided into court, and alley, and row, varied only by the sullen gloom of palisaded square or the selfish jostle of busy street? How can children reared in the unchanged gaol of a great city, to whose experience land is divided into paths and streets, pavement and mud; sky consists of a few square yards of smoky canopy; and sea or far-stretching area of water are altogether unknown and undreamed of;—how can such children, as they grow up from a neglected youth into a dangerous maturity, fail to exact from society some penalty for the loss of all that makes the glory of childhood?

Nay,—we may be told by those who are quite contented with the world as it is, viewed through their own well-glazed windows,—this is an exaggeration! We are a free country. No one is compelled to live in a city. Men and women may walk from Land's End to John o' Groat's without a passport, and are not now, under almost any circumstances, forbidden to leave their parish. Demand and supply are correlative. This correlation is the grand law of economical policy. Interference with its action is a mistake, an offence against the true source of national wealth, which means national riches. If dens, and courts, and *culs de sac* exist, and teem with a pale-cheeked population, it is because there is a demand for such abodes, and a something or other that calls such a population into existence. It is not the part of wisdom to meddle with such matters. Let them right themselves!

A less enlightened man, one in whom the memory of certain names that rang in the ears of a former generation,—Howard, and Wilberforce, and Jenner, or even the more modern sound of Nightingale,—is not altogether extinct, may here rebuke the more advanced, scientific statesman.

There is a limit, our second reprover will tell us, even to the effect of the laws of the political economist, unquestionably true as they are in the main. We must protect society in the mass, because the mass has no organisation by which to protect itself. We must draw our sanitary cordons; prevent the unsavoury outcome of the lower neighbourhoods from damaging the proprietary value of the bettermost localities. We must even drain, and sweep, and whitewash in the very rookeries, lest they become the nests in which pestilence may be hatched; which, disgusting to say, is no respecter of persons. Let us avoid sentimentality in talking about the poor. Their condition may not be all that we could wish, but who among us *has* all that he or she wishes? All that society can do is to prevent evil, hatched by poverty, from extending to the detriment of those who, by their own exertions or those of their progenitors, are happily placed above poverty. And this, indeed, it will be added, with a triumphant smile, we do in a most praiseworthy manner!

Now, even as to the very subject of re-oxygenating the air requisite for the consumption of the metropolitan residents, exaggerated appeals to sentiment should be avoided. In more than one of the City churchyards grass grows quite properly upon graves, and even a tree or two may be seen by those who are curious to know what one looks like, and who are too lazy to walk three or four miles for that purpose. In one of the very narrowest lanes of the City may be found a certain Italian villa, sacred to the worship of Plutus, famous as the site of the very fountain of Pactolus, and adorned by its carefully walled garden. Then we have very lately swept away poor mean houses, by scores and by hundreds. They were, it is true, the railway people who did this; but look at the large area opened on the site of the former shores of the River Fleet! It is positively exhilarating to see so much open space in the midst of a town! The old inhabitants must now inhabit somewhere else, to the great improvement of the air of the City!

Then have we not presented ourselves with a noble river promenade, wrested from the mud-lark? and will not the recovered land supply very eligible gardens for the nobler sort of river-side mansions? Have we not the parks for those who care to walk—broad, free expanses, traversed by irreproachable macadamised roads, and containing real trees. Nay, more—borders of shrubs have been planted, and labels attached to each specimen, written, not in Hebrew, in Greek, and in Latin, but, more appropriately, in English and in Latin. And then, over and above all, for those who can reach it, in the pure air of Sydenham, we have a glittering palace, reared among lordly grounds, vocal with the finest music (for the halfcrown people), and available as an unfailing source and fountain of beer.

It may be ignorance, it may be obstinacy. But yet we are unconvinced. We plead for something more for the poor man's child—for something that may be placed within his reach, and that, when reached, shall make him the healthier, and the better, and the happier, for the pure enjoyment which it ministers. "These particulars are for the climate of London; but my meaning is perceived, that you may have *ver perpetuum*, as the place affords."

"And because the Breath of Flowers is farre sweeter in the Aire (where it comes and goes like the warbling of Musick) than in the hand, therfor nothing is more fit for that delight than to know what be the flowers and plants that doe best perfume the Aire." For gardens (speaking of those which are indeed prince-like), a fifth part was assigned by the cultured fancy of Bacon to a heath or desert, besides the well-shorn green at the entrance, bordered by a stately hedge. "For the heath, which was the third part of our plot, I wish it to be framed, as much as may be, to a natural wildnesse." "Thickets of sweetbriar, and honny-suckle, with some wild vine amongst. And the ground set with violets, strawberries, and primeroses. For these are sweet and prosper in the shade; and these to be in the heath, here and there, not in any order."

For the delight of the cultivated taste, no less than for the full enjoyment of the beauty of English scenery, a great garden for the people must contain much; indeed should for the main part consist of something yet closer to nature than the studied neglect of an artificial desert, such as is to be seen skirting the lovely rose-gardens of Cashiobury. The great glory of England, in a picturesque point of view, lies in her parks—Windsor, Chatsworth, Cashiobury, Knole, Tottenham. It is hard to find any European scenery that is at once so wild and so domestic as are these stately chases. A daily walk under the time-honoured oaks, the terraced cedars, the arched avenue of humming lime-trees, in one of these noble retreats, is in itself an element in a liberal education. Let us honour the art of the florist, no less than that of his kinsman the gardener of herbs and of fruit. Let us never omit to draw around any scene of attraction for thousands of visitors broad bands of dazzling flower-beds, bright with everyseasonable glory of hue. Broad and stately walks of well-rolled gravel, shaven lawns, affording an

emerald setting for the flowers, winter gardens, rich with the graceful forms of the tropical flora, palms, and tree-ferns, luxuriant creepers, and tufted moss-worts, the lily of the Nile, and the bean of Pythagoras, — let us have all these. Let us add a live dictionary of plants, in a plot of ground arranged in two divisions, serving as index and as catalogue, after the artificial and the natural systems, as far as the genera of Linnæus can be exemplified. Neither let us exclude lawns and alleys fitted for the exercise of manly or gentle games, —fields of fair flight for the archer, of wide spread for the outliers at cricket, of close-cropped, cushion-banked grass for the picturesque groups of the croquet party. But with, and among, and beyond, all this must there be a shadow and a setting of forest, or tangle of copse pierced by leafy alleys, — a depth of shade, green, in early spring, with the light shed through the young foliage of the beech, or blue, of a tint like that of the creeks of the Ionian Sea, with an untrodden wealth of blue-bells.

Nothing is more marked, nothing ought to be more instructive, to those who care for the comfort, the elevation, and the future, of the great masses of the English people, than the avidity with which they turn towards the teaching of Nature, wherever that voice may be heard. In the very vices of the national character this tendency is present. No taxation or registration is necessary to discourage the Belgian, the French, or the Italian peasant, from burdening his slender resources with the appetite of a bull terrier or other hungry mongrel of any impossible ugliness. The one great relief which the harder worked portion of the educated classes seek from the toil of the bar, the bench, or the senate, lies in a return to the shadow of the original habits of the Britons who gave Cæsar such a rude reception; even if they are driven to the pursuit of grouse on the Scottish moors, now that red deer no longer browse beneath the oaks of Epping. To drive, to ride, to farm, to breed horses, to run them, to hunt, to shoot,—all the chosen relaxations of the English gentleman breathe an inherent love of nature. True, in the *battue* he may sink,—from bad example, let us hope,—into a butcher. In squab-time he can hardly claim to look down with any real vantage upon the rat-catcher. But even these aberrations of the instinct of the hunter are more manly and more healthful than the occupation of a chair on the boulevard, with the daily accompaniment of the eleven o'clock omelet, black coffee, *fils en quatre*, and duel with dominoes; or than the flat cake of ice, glass of water, half-chewed cigar, and interminable prate of the Italian deputy or senator.

Not only is a love of nature, however stunted and distorted in its development, an integral part of the English national character, but its presence has been detected (rather than grasped) by the recent movement of the Science and Art Department in the direction of national education. Among the various museums, galleries, and scenes of display which are grouped together at South Kensington, it is observed in the last report, that the specimens, diagrams, and drawings illustrative of the physical condition and natural history of the earth, attract, with the most irresistible force, those whom we should most anxiously strive to attract, since they are those who have the most to learn. Something of the same tendency may be observed by those who visit the British Museum, as students of something more than the collections. The long corridors and crammed cases, devoted to the store, — we can hardly call it the arrangement, — of the zoological specimens, attract thoughtful and wondering spectators. It must be a sheer love of the subject that brings them there, for the collection, though admirable for its magnitude, and containing rare specimens of the art of the taxidermist in some of its latest additions, is not so disposed as to convey much knowledge to the previously uninstructed mind. The cases are too crowded, the classification, though quite intelligible to any one accustomed to the pages of Linnæus or of Cuvier, is too unnatural. The whole aspect of the museum is that of a place of reference for the student or the professor,—not of an exhibition intended for the public.

We write not without acquaintance with the difficulties that oppose the classifier; those difficulties which led Cuvier to conclude that the discovery of the true *Systema Naturæ*, the hope and dream of Linnæus, was altogether unattainable. Nor are we unaware of a later theory, a reaction from the unimaginative positivism of the later years of the great French naturalist, which ascribes a creative, or, at least, a transformative, power, to the effects of hereditary impulse or of reproduced caprice. But we have no hesitation in affirming that it is possible so to construct, and so to arrange, a Natural History Museum for the people, that a walk through its halls will be a lesson, at once memorable and delightful, as to the grand outlines of that world of life of which man, as a mortal inhabitant of the planet earth, constitutes one among many allied groups.

The broad and primary division of zones of abode marks a primary division of animal forms which is in perfect accordance with the classes of the naturalist. We do not refer to geographical zones, or to that distribution over the surface of the world which is mainly due to the degree of temperature; but to the vertical belts or levels of abode afforded by seas and rivers; by shores, sea-bottoms, bogs, morasses, and fens; by dry land in plain, valley, or mountain; and by arboreal or aërial elevation. In these four great zones of position, the primary classes of the vertebrated animals, fishes, reptiles, beasts, and birds, naturally find their home. A fifth zone is afforded by organic beings themselves, the abode of numerous parasitic species of both vegetable and animal race. Not only do all the main groups known to the naturalist, under the three primary types of animal structure, coincide with one or another of these five zones, but division and subdivision may be carried on step after step on the same principle of arrangement; and the answer to the double question of what a given animal is like, and of what relation it bears to others, either in homology or in analogy,—that is to say, either in essential structure or in functional modification,—may be impressed clearly on the mind by an intelligent and persistent reference to this great and simple law of disposition.

A comparatively limited but thoroughly well-selected number of specimens, never allowing, let us say, more than a single representative to a genus (and not admitting the extremes of modern generic subdivision), stuffed with as much care and skill as are evinced in the preparation of the Aye-aye, the Owl, and the Bird of Paradise, which so delight the visitors to the British Museum, arranged in well-constructed, well-lighted cases, without crowding, each specimen accompanied by a clearly descriptive printed label,—the divisions of the whole collection indicated by good divisional labels, in larger and larger type, according to their classificatory value, would prove a mute but instructive lecture-room, which would probably be the most attractive exhibition that could be offered to the attention of the children of our great metropolis,—the children of every age.

In the attempts which are being made, from time to time, to retain breathing-spaces amid the hourly-extending province of London habitations, to secure, to prepare, or open, parks or gardens, or places of educational resort for the people, we hope that these important requisites will be borne in mind. City life has its own brutalising influences, apart from, or even opposed to, the intellectual sloth of rusticity. We shall best counteract these evil tendencies by restoring the presence of nature. We cannot do this in the grandeur or the power of her wild dominion; but it is within our reach to present to the mind some of the noblest elements of natural beauty, and so to group them as to supply, by a mute but reciprocal illustration, a lesson that would be lost in the very expanse of unchecked rural wildness. Let us set our flower-gardens for the people in their natural framework of heath, of park, and, where possible, of forest. Let us group well-preserved forms of animal structure in a manner that shall illustrate the wisdom, if not the boundless variety, of Nature herself. Let us place these things, physically and pecuniarily, within the reach of the children of the metropolitan poor. And, if this fails to attract, to charm, and to educate, let us take thought for thicker walls and more numerous wards for the gaols and poor-houses that will be required in the days of our children and our children's children.

Blasting on a great Scale.—An extraordinary blasting operation has taken place near Merthyr. A hole, 38 ft. deep, was bored in rock, and it was charged with 600 lb. of powder. The explosion of the charge produced quite a local earthquake, and detached at least six thousand tons of stone.

A NOTE AT CAMBRIDGE: CAIUS' COLLEGE.

AN investigatory stroll about the time-honoured University town, in the interval between the arrival and departure of trains, leads us to notice the new buildings at Caius' College, nearly completed, from the designs of Mr. Waterhouse, as the principal architectural work now in progress there. Though the general appearance and expression of the building at once suggest to us the name of the architect, we find him here employing detail and ornament somewhat different from that with which his name has been mostly connected hitherto. The general object aimed at in this building is at once apparent to the architectural critic: the intention has been to fuse some of the characteristic effects of Gothic and Renaissance design; and in pursuing this aim we must say that Mr. Waterhouse has succeeded in producing an effective and, on the whole, consistent building.

The new buildings occupy one side and two halves of the other two sides of a quadrangle, the two re-entering angles in the interior being carried off in the one case by a circular stair-turret occupying the angle, and showing on its exterior design the raking line of the staircase, and at the other corner by a return of the principal wall face at an angle of 45°, cutting off a small portion of the plan of the quadrangle. Through this angle opens internally the principal entrance to the quadrangle, which externally, however, forms a principal feature in the outer face of one of the returned wings of the building. Entering from the outside through a large semi-circular archway, we find ourselves first in a square groined porch and then in an inner porch, where we turn at an angle to the left through the internal entrance just mentioned. Externally this entrance is emphasised by a break in the plan giving a projection in the wall-line; a break which above the roof is developed into a kind of low tower, with a pyramidal slated roof and lofty chimney-stacks at each side, and round corbelled-out angle-turrets or finials on the two outer angles. This combination gives the same kind of confusion of skyline and crowded appearance of composition which we noticed in criticising the new hotel at Liverpool by the same architect some time since; the chimneys and the pointed roof are so closely piled together, and so nearly equal in height, that (viewing it in perspective especially) we scarcely know which to select as the principal feature, and the whole grouping makes a very confused and unsatisfactory finish. The architect would do well to avoid this defect in future, and study unity and simplicity in the sky-line of his loftiest features. The whole of the windows are square-headed, with mullions and transoms with slightly heavy but very effective mouldings, the doorways mostly with round-arched heads, no pointed arch appearing in the building so far as we noticed. A machicolated cornice, perhaps scarcely powerful enough to dominate sufficiently into one whole the rather variegated features below it, runs round the building, and over this rises a series of dormers of picturesque semi-Elizabethan outline, with a singular kind of flying buttress or stone rail springing in a segment of a circle from the foot of the dormer gable, and joining it again near the apex, on each hand; the feature is not a very architectural one, but has a pretty effect nevertheless. The carving round the jamb and arch-volt of the external entrance is a kind of mixture of Greek and Gothic detail, which rather happily gives the key to the motive of the whole design; and the carving in the panels under the first-floor windows, while sufficiently deep cut to be effective, is essentially renaissance in line and style. At the angles are the square corbelled oriel windows, facing at an angle of 45° with the two sides, which Mr. Waterhouse is so fond of employing. The row of square projecting bay windows running through two stories, along the longest external elevation, are not so successful in effect; their corbels are rather heavy in outline, and the effect is perspective, when looking along the longest front, is not very happy. In the centre of this longest front is a smaller entrance to the quadrangle, through a semicircular doorway of similar character to that on the wing face; both entrances have ornamental iron gates of good design, more Gothic in manner than Classic. The one purely Gothic feature in the building is the row of grotesque spout-heads on the cornice; and these, to say truth, are a feature that might

have been spared without any disadvantage. It should be noticed, also, that the dormer windows rise directly from the upper surface of the cornice without any further cill, and this gives them rather an awkward appearance, especially when near the building, when the lower portion of the window is entirely cut off from the eye by the cornice. Over the windows towards the quadrangle are small cornices after the Renaissance manner, but treated with partially Gothicized detail, as the eye discovers on a closer inspection, in the carving under the soffit. The building is to be decorated externally by portrait statues, the positions for which are already marked by niches and corbels in various places; and one statue of a wigged and gowned former clerical benefactor was already *in situ* at the time of our visit. The walling is of Casterton stone, in regular masonry of thin and thick courses alternately; and the dressings, mullions, &c., are of Ancaster stone, which, in point of tint, does not differ sufficiently from the other to preserve a distinctive appearance for any length of time, if such distinction is an object. Taking the building as a whole, we should be inclined to say that a little more study given to the style of the ornamental detail, both as to individual portions and as to general congruity, might not have been amiss; but in the main the whole work is a very clever and successful effort to attain novelty and variety of effect by a combination of materials belonging to different styles, and is, at all events, worth notice and study on this ground, on the part of any of our readers who, in passing through Cambridge, may find time to get far enough into the town to visit Caius', or (as the undergraduates euphoniously term it) "Keys" College. Mr. Waterhouse has added also an apsidal termination to the college chapel, where, as we learned, a new organ has recently been erected.

A stone's throw or two farther on brings us to the east end of the new chapel of John's College, where now the canopied niches on the buttresses are gradually becoming filled with the sculpture for which they were intended, such filling having, indeed, been accomplished along the south side of the choir, and apparently proceeding energetically. After looking a little at the chapel, and thinking that it is in a general way too Continental in style and pretentious in appearance to harmonise very well with the sober and homely style of old John's College buildings, and that the tint and tone of the roofing tiles is too near that of the stonework to look well, as they are palpably *not* the same class of material; and after wondering how Mr. Scott came to put such heavy pinnacles and such a very thin and weak-looking balustrade between them as a finish to the tower, the visitor will, if he is of our mind, stroll across the large court of Trinity adjoining, with its tinkling fountain in the centre, and so through into the "second quad.," with its verdant turf surrounded by one of the most elegant and spacious of Italian loggias, through the further side of which he may see the green gleam of sunlit trees beyond, and whence he may emerge into the college grounds behind, and crossing by the so-called "cycloid" bridge, where

"Camus, reverend sire, goes footing slow,"

may wander up and down "that long walk of limes," the favourite haunt of how many a generation of learned and ambitious spirits, and lose himself in we know not what of day-dreams, till "time and the hour" warn him to re-seek the commodious and well-arranged railway station, and return to rapid locomotion and the nineteenth century.

FREE LIBRARIES AND MUSEUMS.

A PARLIAMENTARY paper, just published, will excite surprise and regret that the Free Libraries and Museums Acts of the late Mr. W. Ewart, member for Dumfries, should have borne so little fruit during the last twenty years, in which they have been in operation. The paper referred to is a return moved for by Mr. Edward Baines, M.P., last year, intended to show all the boroughs and places in the United Kingdom that have adopted the Act of 18 & 19 Vict., c. 70, and others, for establishing public libraries and museums and schools of science and art. The return is so palpably imperfect in several important particulars, as to induce a misgiving that it is not to be relied upon, even in the cases concerning which returns are professed to be given. As touching the incompleteness of the return, for instance, it seems passing strange that a free library, established under the Acts, which is situated almost at the doors of the Houses of Parliament, has no reference whatever made to it; we refer to the Free Library of St. Margaret's and St. John's, Westminster. This humble institution is the only one of the kind that the great metropolis has to boast of, or rather to humble itself concerning; but such as it is it deserves mention; and, in connexion with its establishment, honourable mention of Lord Hatherley, the present Lord Chancellor, who was mainly instrumental in its establishment. In various parts of London, as well as in many other cities and boroughs throughout the kingdom, attempts to adopt the Acts have been made and defeated by the economists,—save the mark,—with whom the penny in the pound is a more important consideration than the moral and intellectual culture, or the improvement in taste, of the industrial population. The penny is tangible and intelligible; the possible results of the establishment of free libraries, museums, and schools of art are not dreamed of in their philosophy. It should be mentioned, before passing away from the metropolis, that London city has its very excellent corporation library and museum at the Guildhall, to which access is easily attainable by any respectable person. It includes a reference and lending library and museum, and is specially rich in books, antiquities, and other objects relating to London.

With respect to other places from which returns were asked for, it is to be regretted that from twenty-four towns in Great Britain—twenty-one in England and three in Scotland—no returns of any kind have been received. There is surely culpability in this, especially in relation to the towns in which free libraries under the Acts have been established for years. The list includes Birkenhead, Oxford, Kidderminster, Lichfield, and Yarmouth, in all of which we believe free libraries exist; most certainly they do, or did, in Birkenhead and Oxford. A list is given of 240 cities and boroughs in England and Wales, concerning which the brief and unsatisfactory record is made, that "returns have been received stating that they have not adopted the Acts in question." The list includes such populous places as Newcastle-upon-Tyne, Hull, Rochdale, Rochester, Oldham, the Hartlepools, Halifax, Wakefield, Weymouth, York, Chester, Chesterfield, Colchester, Dartmouth, Falmouth, Ramsgate, Shrewsbury, South Shields, Staleybridge, Stockton-on-Tees, and very many others that might be named.

The return contains some gratifying illustrations of hearty unanimity and of large majorities by which the Act has been adopted; but illustrations of an opposite and less satisfactory character also. At Berwick-upon-Tweed the Act was adopted in 1867, but in consequence of subsequent opposition by the ratepayers no action has been taken upon it. At Gloucester an attempt to adopt the Act was made in 1867, but the promoters withdrew the proposal without coming to a vote, in consequence of the hostility of the ratepayers. At Macclesfield the ratepayers have determined by resolution not to adopt the Act. At Margate, in 1867, a library and museum, with the freehold of a scientific institution, were offered to the town on very advantageous terms. A very large number of the most respectable burgesses, the largest ratepayers, were out-voted by a majority of the lower class, who outnumbered them on the motion that the Free Libraries and Museums Act be adopted. The triumphant majority comprised those burgesses who would have paid least and benefited most by the adoption of the Act. At Portsmouth two attempts made for the adoption of the Act have been defeated. From Carnarvon the return is that "nothing has been, or is likely to be done, in the matter of public libraries or museums for the borough." At Swansea the Mayor has been defeated by the burgesses in an attempt to put the Libraries Act into operation. In enlightened Edinburgh, a renowned seat of learning and literature, an effort was made in May, 1868, to establish a library under "the Public Libraries Act (Scotland), 1867." On a poll being taken, the vote was 1,025 votes against, and sixty-eight in favour of the proposal! Edinburgh has splendid collections of books in its Advocates', Signet, University, and other libraries, which are not available to the artisan class. This discreditable vote almost implies that these libraries are little used or appreciated. Love of books is totally incompatible with a disposition to limit the range of their usefulness. Enlarged views were scarcely to be expected among the hucksters and lodging-house keepers of Margate; but far less should it have been expected that the enlightened citizens of "the modern Athens" should have so far outstripped the humble burgesses of Margate, Portsmouth, or Berwick-upon-Tweed, in the achievement of such an unenviable distinction.

Happily, the returns furnish tints for a brighter picture, in the particulars communicated illustrative of the munificence of the people of Manchester, Liverpool, Salford, Birmingham, and other places, in the establishment of free libraries and museums, and concerning the splendid successes achieved by these noble institutions. The Manchester Free Library was opened in 1852, and, as now developed, consists of a reference library, containing 45,000 volumes; five lending libraries, which make up the total volumes to considerably above 90,000; and five public reading and news rooms. In the year 1868-69, there were 873,648 volumes issued in all the departments, or an average of 3,088 volumes per day. The sum of 12,823*l.* was subscribed by voluntary contributions when the library was instituted: above 20,000 artisans and workpeople contributed to this amount. The associated libraries are maintained at a cost of about 5,000*l.* per annum, exclusive of 350*l.* per annum appropriated to the maintenance of a museum. The produce of the rate in Manchester, at a penny in the pound, is 5,700*l.* per annum. The Liverpool Reference and Lending Libraries have 100,000 volumes, and, with the museum, are maintained at an annual average of 4,800*l.* The penny rate in Liverpool raises 8,660*l.* The splendid building in which the reference library and museum have their home, was the gift, during his lifetime, of the late Sir William Brown, M.P. The monthly issues of books at the reference library, are 35,400, and at the two lending libraries, 35,300. The visitors to the museum average 27,800 per month. The Liverpool Library and Museum are maintained under a local Act. The Salford Free Library commenced in 1849 with a voluntary subscription of 7,523*l.* There are 31,614 volumes in the reference and lending libraries. Above 5,000 volumes per month are issued in the reference, and as many in the lending library. The value of the contents of the museum is estimated at above 10,000*l.*; and the average annual cost of maintenance is 1,565*l.*

The Birmingham free libraries are of much more recent date, and of more rapid growth than the institutions already referred to. The first department, a lending library, was opened in 1861. The libraries establishment now consists of an art-gallery, a reference library, and five lending libraries, with a free public news-room attached to each. The total number of volumes in all the departments is about 60,000, of which half are in the reference library. The issues of books are above 100,000 volumes per month, and the visitors to the Art Gallery, above 17,000 per month. The cost of maintenance of the libraries is 4,250*l.* per annum, which absorbs the penny in the pound. Bolton (Lancashire) adopted the Act in 1852, when 3,245*l.* were subscribed by the inhabitants as a starting fund. The reference library has 16,000 volumes, and the lending library 9,000; about 9,000 volumes are issued in the two departments monthly. The annual cost of maintenance is 400*l.*, obtained from a rate of one halfpenny in the pound. The votes polled to adopt the Act were 662 for, and 55 against. Blackburn (Lancashire) adopted the Act in 1853 by a vote of 430 to 2. It has above 15,000 volumes, and issues about 3,000 per month. A rate of one halfpenny in the pound is levied for the maintenance of the libraries, which realises 380*l.* per annum. Cambridge adopted the Act in 1853, when 873 polled for, and 78 against, the proposal. There are above 14,000 volumes in the two departments, reference and lending, and there are about 45,000 issues annually, or equal to the issue of each volume above three times. The cost of maintenance is 300*l.*; the penny would produce about 450*l.* Coventry Public Free Library, opened in September, 1868, has above 12,000 volumes, and issues about 250 volumes daily. The penny rate yields 362*l.* The Act was adopted at Norwich in 1854 by a vote of 150 to 7. It has about 4,000 volumes, and issues above 2,000 volumes monthly. The annual cost is 141*l.*, "beyond interest and instalment of loans." Nottingham adopted the Act in 1867, with only one dissentient. Buildings for the reference library and newsroom are in progress. The number of volumes issued is about 15,000 per

month, and the cost of forming and maintaining the library and natural history museum, 1,000*l.* per annum, which is taken from the borough rate. Sheffield adopted the Act in 1853, the two departments have above 30,000 volumes. Its issues to readers in the library are about 3,500, and to readers out of the library about 14,000 monthly. The cost of maintenance is about 1,300*l.* Among other towns that have free libraries and museums in operation under the Acts are:—Canterbury, a museum and library maintained at an annual cost of 190*l.*; Dover, a museum, at a cost of about 200*l.*; Hertford, a library, at a cost of 95*l.*; Ipswich, a museum, and a limited library, at a cost of between 400*l.* and 500*l.*; Leicester, a museum, with library in progress, at a cost of 863*l.*; Maidstone, library and museum, at a cost of 300*l.*; Stockport, a museum, cost defrayed from rate of ¾d. in the pound per annum; Northampton, a museum, with library to be added; borough rate appropriated, 386*l.*; Walsall, a lending library and reading-room, at a cost of 270*l.*; Warrington, library and museum, at a cost of 250*l.*, the museum containing upwards of 25,000 specimens of natural history and works of art, nearly all obtained by donation; and Warwick, library, at a cost of 142*l.* per annum. In Wales, Cardiff has a public free library established by the unanimous vote of the ratepayers. It is maintained at a cost of 500*l.* a-year. In Scotland there are libraries in operation under the Acts at Airdrie, Dundee, and Paisley. At Paisley the necessary buildings for the free library and museum were erected at the expense of Sir Peter Coats, and transferred to the corporation, free of cost, in trust for the community. The Act has been adopted, and the provision of the necessary buildings, and the formation of the libraries and museums, are in progress, at Ashton-under-Lyne, Exeter, Leamington, Leeds, Leicester, Stockport, Tynemouth, Warminster (Wilts), and Wolverhampton. The subject of adopting the Acts is under the consideration of the corporations of Bath, Bradford (Yorks.), and Derby.

Some gratifying illustrations of the liberality of private donors are given in connexion with towns which have not free libraries under the Acts. At King's Lynn, for instance, there is the public library, founded by the present Earl of Derby, when he was member for the borough, and which is known as the "Stanley Library." Preston has its free library, founded by Dr. Shepherd, which is now maintained by the corporation. Bristol has a free library, the property of the corporation; and, as regards the borough of Barnstaple, Mr. F. W. Rock, a native of that town, and for many years a respected London publisher, generously subscribes 100*l.* a-year to the Literary and Scientific Institution of the town, which enables the managing committee to admit 100 free members annually, who have the use of the library and news-room, and of the classes formed for instruction in languages, elementary art, and science. Are there no large-hearted men in Edinburgh ready to follow such a noble example?

FANS AT SOUTH KENSINGTON.

WITH the view of assisting in the art-teaching of the Department for the Instruction of Women, and especially to direct their attention to the attempts which the Lords of the Committee of Council on Education have made for the improvement of fans, a loan exhibition of fans has been opened at the South Kensington Museum. Her Majesty the Queen has lent some fans, as have a number of ladies; and Mr. Samuel Redgrave has prepared a special catalogue, prefacing it with the relation of some interesting facts concerning fans and fan-makers. The present exhibition, as we have said, is part of the scheme of the Department of Science and Art for the art instruction of women. To promote this object, the Department offered prizes in competition for fans painted by the students in the female schools of art in 1868, and again in 1869. The fan-mount, to which, in the first of these years, the chief prize was awarded, is included in this exhibition, and it is intended to continue the competition; her Majesty also purposes to offer a fan prize for competition at the International Exhibition of 1871. Those, therefore, who desire to compete may now have the great advantage of seeing all the best fans which can be brought together, and of studying, not servilely copying, what is in every respect most appropriate, tasteful, and novel, as well as what should be avoided. But the mount, which is the object of competition, is only a portion of the completed fan.

Some interesting facts relating to the Paris manufacture of fans appear in the Report of the Délégations Ouvrières, Paris Universal Exhibition, 1867. It is stated that the fan-stick is specially made in the Department de l'Oise, and that mother-of-pearl, ivory, bone, sandal-wood and other domestic and foreign woods, are used; the manufacture in mother-of-pearl being carried on at Andeville, and in other materials at St. Geneviève. The work is chiefly domestic, the artisan, his wife, and children taking a share in it, and frequently attaining great skill by their own untaught industry and talent. The finely-painted mount is exclusively Paris work, the most esteemed artists being frequently employed. The fans thus produced are made under the direction of the principal dealers in Paris, and usually represent some specialty which belongs to their producer. In England, the trade has not found such a development, and its future extension would seem to depend upon the uprising here of men of taste and capital, to which end the present exhibition may conduce.

The dress-fan of a high character is now exclusively made in Paris. In no other city does a modern fan command a price of 100*l.*, and the makers claim to have made all Europe tributary to them, admitting, however, that they cannot rival the cheap and remarkable quality of the Chinese fan.

Mr. Redgrave reminds us of the relation by Nollekens, the sculptor, that when his wife was a girl, her father's intimate friend, Goupy (a well-known water-colour draughtsman, who died in London, 1763), was considered the most eminent of the fan-painters, and that fan-painting was then so fashionable that the family of Athenian Stuart placed him as a pupil to Goupy, conceiving that by so doing they had made his fortune; and we learn from other sources that Stuart originally gained his livelihood by painting fans. We should like to meet with one of these.

At the present time, the only fans produced in London are, we believe, of the plainest and commonest character, made of paper or of white wood.

The fans exhibited are 413 in number, of which about half are French; 160 of the latter, including thirty-four from the Empress of the French, having been obtained through the good offices of M. de Sommerard. The Baroness Meyer de Rothschild and some other ladies worked sedulously to obtain contributions, and Lady Wyatt may be specially mentioned as having contributed largely to the collection. Amongst those from the Empress is one with an elaborate picture (No. 146), "The Adventures of Cupid," including numbers of miniature figures. A French fan (No. 248), sent by Monsieur Voisin, Paris, deserves attention. The subject is the "Symbolical Marriage of Louis XV. and Maria Leczinska, on Mount Olympus." It consists of a great number of figures, with portraits of the King and Maria surrounded by genii; figures of Jupiter, Juno, and Apollo in cartouche, surrounded by musicians and others, in rose camaïeu, surmounted with the arms of France and Poland.

Sir Philip de Malpas Grey Egerton lends one with an elaborate drawing in pen-and-ink, representing an Academy of the Sciences, with architectural background, by Sebastian Le Clere. Madame Jubinal has forwarded, with many others, an elegant Italian fan, belonging to the middle of the seventeenth century, painted with the "Rape of the Sabines," an original design by F. Romanelli, who was employed by Louis XIV., and painted the frescoes in the Bibliothèque Mazarin. The Empress of the French sends more than one charming modern fan, painted by Madame Calamatta and by Guimbel.

No. 211, with Harlequin and Pierrot, painted by Gavarni, will not escape comment. Another noticeable work is sent by M. Chardin, *Eventailliste*, Paris (No. 324). It is of the time of Louis XV. It is painted with "The Triumph of Mordecai," signed "Germo;" on the back an Italian Classic landscape.

Several matters, we need scarcely say, are involved in the production of a fine fan besides painting, such as the general form, carving, gilding, and varnishing. Of the works known as *Vernis Martin* several good specimens will be found. Martin, who invented the process, and produced so large a number of fans in the reign of Louis XIV., is supposed to have been an Englishman. The fans made under his direction display remarkable finish and brilliancy of colour.

Some of the fans in the collection well illustrate the period at which they were produced; as, for example, No. 102, of the time of the French Revolution, engraved with bust of Mirabeau and scenes from his life. The Chinese and the Japanese fans are distinguished by the depth and brilliancy of the colours employed. Some of the fans have a story which gives them a separate interest: thus No. 178 is a fan described in one of Madame de Sévigné's letters; 218, a remarkable specimen of imitation lace, was formerly used by Madame de Pompadour; 278 belonged to Queen Charlotte; and 272, a small ivory dress fan, painted with subjects in cartouches, was the property of Queen Marie Antoinette, and was obtained by the Queen of the Belgians for Queen Victoria, who lends it. No. 382 was brought from Italy by Sir Joshua Reynolds for his niece; and 383 formerly belonged to another P.R.A., Sir Benjamin West.

The majority of the English fans exhibited are not very good specimens, although by no means out of place in a typical collection. They may, and should, still be added to. We recollect of one (does it belong to Mr. Lewis Pocock?) that was painted with a representation of the tiles at Tunbridge Wells, with Dr. Johnson and other known characters taking the air.

In addition to the prize of 40*l.* offered by the Queen, as already mentioned, for the best fan exhibited in 1871, being either a work of painting or carving, or a combination of both, and executed by a female artist under twenty-five years of age, the Society of Arts has offered its Gold Medal (of the value of twenty-one guineas) for the second best fan exhibited. The Lady Cornelia Guest and Baroness Meyer de Rothschild have each offered a prize of 10*l.* for the two next best fans; and a sum of 50*l.* will be awarded and spent in various amounts by the Science and Art Department for fans produced by female students of the schools of art in the United Kingdom. We may hope that some practical results will follow these endeavours to revive the production of fans in England as a branch of fine art applied to industry.*

"LOTHAIR" AND HIGH ART LIFE.

IF we were to ask what the foremost idea is which may be said to embody and include the whole number of the aspirations and wishes of the present time, it would certainly be contained in the word *progress*. Everything, we are told from all quarters, is progressing—*i.e.*, going on towards something or other, no one knowing precisely what it is, inasmuch as people are found to differ a good deal from one another as to the point to be aimed at. But one thing is quite certain, and that is, that all and the whole of the actual and tangible and visible progress that is being made for the most part concerns but a very few people indeed, the final results of all *improvements* finding their way into comparatively few hands. Mr. Disraeli, in "Lothair," has presented us with a specimen of an example of what progress in its final outcome means and is. Lothair has got everything,—*i.e.*, boundless wealth, leisure, and opportunities, which now-a-days means everything. *Fine art* in all conceivable places is his, for he either buys it, or goes to it, and it is a question of no small interest to find out whether there does now exist, and where, or in what places, any sort of Art, old or new, worth the notice of any man to whom nothing stands in the way of his coming at it. Or we may put another, and the only alternative case: must he, per force, fly to *Nature* herself, *Art* not sufficing. It concerns the readers of the *Builder* because the real subject of this book is the modern material and surroundings of those who can get them by simply paying for them.

Mr. Disraeli's is a very clever book, but a very disappointing one, considering who the author is, from the sheer fact of Lothair being a mere dummy, moved about like a shuttlecock from one "influence" to another, without anything in him to direct his own flight or movements: so that the book is, for the most part, mere apparatus, and art, and furniture influences, not directed, but directing. Every artist should read this brilliant book; for it is about modernism, modern art furniture, and the final results of "progress." Lothair has everything which the

* We may as well mention here that, to provide space in the Museum for the examination and exhibition of the National Competition Drawings of the Schools of Art in the United Kingdom, the Gallery of Raffaelle's Cartoons will be used, and must be closed for a short time.